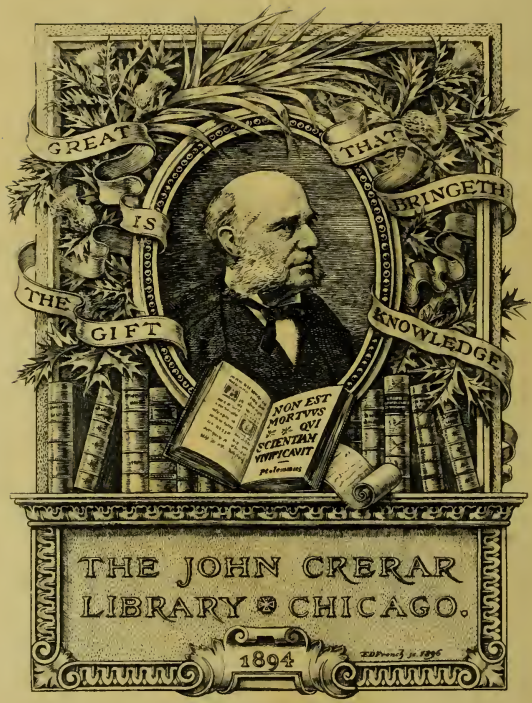

PRESENTED BY

New Hampshire College

NH1

CATALOGUE

OF THE

New Hampshire College

OF

Agriculture and the Mechanic Arts

1898-9

J. C. L.

THOMPSON HALL.

CATALOGUE

Withdrawn

OF THE

NEW HAMPSHIRE COLLEGE

OF

AGRICULTURE AND THE MECHANIC ARTS

1898-1899

MANCHESTER
ARTHUR E. CLARKE, PUBLIC PRINTER
1898

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FOUNDATION AND ENDOWMENT

At the session of the legislature of New Hampshire in 1866, an act was passed establishing the "New Hampshire College of Agriculture and the Mechanic Arts" on the basis of the congressional land grant, and authorizing its location in Hanover and in connection with Dartmouth College.

In accordance with this act, the institution was organized, under a board of trustees appointed partly by the governor and council and partly by the corporation of Dartmouth College.

The act of congress, by virtue of which it was established, provides that its "leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

An act of congress, approved August 30, 1890, provides an additional appropriation, which for the current year is twenty-four thousand dollars. This money is to be applied "to instruction in Agriculture, the Mechanic Arts, the English Language, and the various branches of Mathematical, Physical, Natural, and Economic Science, with special reference to their applications in the industries of life, and to the facilities for such instruction."

At the session of the legislature of New Hampshire in 1891, acts were passed severing the connection with Dartmouth College, removing the New Hampshire College from Hanover to Durham, accepting the Benjamin Thompson estate, and providing one hundred thousand dollars to be used with certain other sums in the erection of buildings.

The Benjamin Thompson estate was then of the value of about four hundred thousand dollars. Accumulating at four per cent compound interest, it will be available as an endowment in 1910.

At the session of the legislature of New Hampshire in 1893, an act was passed appropriating thirty-five thousand dollars for completing and furnishing the buildings. These buildings have been finished, furnished, and supplied with apparatus. The New Hampshire College has completed the fifth year of work in its new location.

The college is carrying out the provisions of the acts of congress, by giving a practical and scientific education which is of use in all the professions and industrial pursuits, by means of the following courses of study:

1. Courses in Agriculture:
    - A. Four Years' Course.
    - B. Two Years' Course.
    - C. Ten Weeks' Winter Course.
    - D. Ten Weeks' Dairy Course.
    - E. Non-resident Course.
2. Courses in the Mechanic Arts:
    - A. Mechanical Engineering Course.
    - B. Electrical Engineering Course.
    - C. Technical Chemistry Course.
3. General Course.
4. Preparatory Course.

ADMISSION.

All candidates for admission to college must present satisfactory testimonials of good moral character.

Candidates for the Freshman class are examined in the following subjects:

I. Arithmetic, including the metric system.

II. Algebra through quadratic equations, including radicals, and fractional and negative exponents.

III. Plane Geometry.

IV. Physics.—Gage's Introduction to Physical Science, or Dolbear's Natural Philosophy, or an equivalent.

V. Botany.—Gray's Lessons, sections 1 to 15 (inclusive), and sections 18 and 19, or an equivalent, with some knowledge of classification, and experience in the analysis of our common flowering plants.

VI. Physical Geography.

VII. History of the United States.—Fiske's, or Johnston's, or an equivalent.

VIII. History of Greece.—Myers's larger work, or an equivalent.

IX. History of Rome.—Allen's Roman People, or an equivalent.

X. French.—Grammar: Translation of easy prose at sight.

XI. English.—Two sets of books are prescribed for preparation in English, one for reading, the other for more careful study. No candidate will be admitted whose work is notably defective in points of spelling, punctuation, idiom, or division into paragraphs. The examination will consist of two parts:

1. Reading.—A certain number of books will be set for reading. The candidate will be required to present evidence

of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. The form of examination will usually be the writing of a paragraph or two on each of several topics to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the book. In preparation for this part of the requirement it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

The books set for this part of the examination will be:

In 1899, Pope's Iliad, Books I, VI, XXII, and XXIV; Dryden's Palamon and Arcite; the Sir Roger de Coverley Papers in "The Spectator"; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; De Quincey's Flight of a Tartar Tribe; Lowell's Vision of Sir Launfal; Hawthorne's House of the Seven Gables; Cooper's Last of the Mohicans.

In 1900, Dryden's Palamon and Arcite; Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in "The Spectator"; Goldsmith's Vicar of Wakefield; De Quincey's Flight of a Tartar Tribe; Tennyson's Princess; Scott's Ivanhoe; Cooper's Last of the Mohicans; Lowell's Vision of Sir Launfal.

In 1901, Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in "The Spectator"; Goldsmith's Vicar of Wakefield; Tennyson's Princess; Scott's Ivanhoe; Cooper's Last of the Mohicans; George Eliot's Silas Marner; Coleridge's Rime of the Ancient Mariner; Shakespeare's Merchant of Venice.

2. Study and Practice.—This part of the examination presupposes the thorough study of each of the works named in this division. In addition the candidate may be required to answer questions involving the essentials of English grammar and composition. Inability to answer such questions will be considered a sufficient ground for refusing admission.

The books set for this part of the examination will be:

In 1899, Shakespeare's Macbeth; Milton's Paradise Lost, Books I and II; Burke's Speech on Conciliation with America; Carlyle's Essay on Burns.

In 1900, Shakespeare's Macbeth; Milton's Paradise Lost, Books I and II; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

In 1901, Shakespeare's Macbeth; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison; Milton's L'Allegro, Il Penseroso, and Comus.

Candidates for admission to the Preparatory class are examined in Arithmetic, including the metric system; Algebra to quadratics, not including radicals; English Grammar and Composition; Physical Geography, and the History of the United States.

Admission will be refused to candidates failing in English, or showing marked deficiencies in spelling and punctuation.

Candidates for admission to the Two Years' Course in Agriculture are examined in Arithmetic, English Grammar (including spelling and writing), and the Geography and History of the United States.

Candidates for advanced standing are also examined in the studies that have been pursued by the class which they propose to enter.

A certificate from an academy or a high school will be accepted in place of an examination, upon any subject required for admission. Every certificate must state the amount of work done by the student, his proficiency, and the textbooks used; and in case it is not evident that the student is thoroughly prepared, an examination will be required.

Certificate forms will be furnished on application.

The times for examination are the Monday and Tuesday before Commencement, and the Tuesday and Wednesday before the beginning of the first term. Candidates will first present themselves with their credentials on the first day of the examination. See Calendar.

DESCRIPTION OF STUDIES.

For the Courses of Study see page 32 et seq.

AGRICULTURE.

1. Elementary Agriculture. *Sixty exercises.*

Lectures, recitations, and practical exercises on the fundamental principles of general agriculture. This course forms the foundation for the courses that follow it. (Short course in agriculture.)

2. Dairying. *Fifty exercises.*

Practice and occasional lectures. The course consists in the general management of modern dairying, the methods of milk analysis, the bacteriology of milk, the use of separators, the making of butter, and preparation of milk for the city market. (Short course in agriculture.)

3. Breeds and Breeding. *Forty exercises.*

Lectures, recitations, and practical work. An elementary course on the practical applications of the laws of inheritance, including the scoring, judging, and studying of breeds of live stock. (Short course in agriculture.)

4. Soils and Fertilizers. *Sixty exercises.*

Lectures, recitations upon the origin, formation, kinds, and physical properties of soils and their improvement by cultivation, natural and artificial fertilizers, drainage and irrigation. Practical exercises in testing physical properties of several soils, determining the relation of soils to heat, moisture, air, and fertilizers, and making mechanical analysis.

5. Stock Feeding and Hygiene. *Forty exercises.*

Lectures and recitations upon the laws of nutrition, the character of food stuffs, the relation of foods to animals, and the kind and quality of foods to produce certain results. Practical exercises in calculating digestibility, nutritive ratios, and feeding standards.

6. Farm Equipment. *Thirty exercises.*

Lectures and recitations upon selecting, planning, and equipping farms; planning and erecting farm buildings; farm vehicles and machinery; power, water, and drainage; practical exercises in drawing plans of farms and farm buildings; leveling and laying drains; dynamometer tests of wagons and farm implements, etc.

7. Farm Crops. *Thirty exercises.*

Lectures and recitations upon the history, production, marketing, and harvesting of farm crops. Practical exercises with growing and dried specimens of farm crops, including grasses, clovers, and other forage crops.

8. Agricultural Seminary. *Thirty exercises.*

This course consists of the study of current agricultural literature. Each student will prepare abstracts, reports, or essays upon assigned articles, books, bulletins, and various agricultural problems.

9. Breeds of Live Stock. *Forty-five exercises.*

Lectures and recitations upon the history, characteristics, care, adaptation, and management of the different breeds of live stock. Practical exercises are given in scoring and judging the various kinds of live stock with use of the score card.

10. Dairying. *Thirty exercises.*

Practical exercises in running the separator, churning, and making butter, and testing, pasteurizing, and analyzing milk.

11. Principles of Breeding. *Thirty exercises.*

Lectures and recitations upon the laws of inheritance and their practical application. Practical exercises in scoring and judging live stock, and in writing and tracing pedigrees.

12. History of Agriculture and Rural Economics. *Twenty exercises.*

Lectures upon the history of agriculture; present agricultural methods in various countries; cost and relative profits of various farm operations and systems.

BOTANY.

1. Structural Botany. *Thirty exercises.*

Lectures and laboratory work on the minute structure and physiology of plants, with special reference to the higher forms.

Open only to those who have taken the preparatory Botany or its equivalent.

2. Plant Diseases. *Twenty exercises.*

A study by means of lectures and laboratory work of some of the more important fungous diseases of cultivated plants, and the means of preventing their injuries.

Open only to students who have completed Botany 1.

3. Advanced Course.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

Open only to those who have shown special proficiency in Botany.

CHEMISTRY.

1. Inorganic Chemistry. *Forty-five exercises.*

Lectures and recitations on general theoretical chemistry, illustrated by experiments, charts, specimens, lantern views, etc. Solutions of chemical problems will be required.

2. Inorganic Chemistry. *Thirty exercises.*

Course 2 is a continuation of Course 1, but the time will be spent mainly on the metallic elements, their metallurgy, salts, etc.

Open only to students who have completed Course 1.

3. Organic Chemistry. *Twenty exercises.*

Course 3 will consist of lectures and recitations on the chemistry of the carbon compounds, together with the study of their properties by means of specimens.

Open only to students who have completed Courses 1 and 2.

4. Qualitative Chemical Analysis.

Course 4 consists of laboratory practice, with occasional lectures. The student is expected to become proficient in the separation and detection of the common acids and bases, and to keep a full set of notes. He will have practice in the writing of reactions, and will fill out numerous slips containing questions bearing upon his work.

Open only to students who have completed Courses 1 and 2.

5*a*. Chemistry of Plant Growth. *Forty-five exercises.*

The composition of plants at different stages of growth, and the conditions necessary for their development. This subject must be preceded by Chemistry Courses 1, 2, and 3.

5*b*. Food and Nutrition. *Twenty exercises.*

These subjects include the composition of foods, and the animal body; the assimilation of the former by the latter, and the

principles underlying a rational diet. This subject should be preceded by Course 5*a*.

6. Applied or Industrial Chemistry.

a. Twenty exercises. *b. Twenty exercises.*

Course 6 consists of lectures on chemical manufactures, such as iron, steel, sugar, sodium carbonate, fertilizers, sulphuric acid, glass, matches, paints, dyes, soaps, illuminating gas, petroleum, etc. The lectures will be illustrated by lantern views; and trips to the leading New England cities, to examine important chemical manufactures, will be taken as far as practicable.

Open only to those who have completed Courses 1, 2, 3, 4.

7. Advanced Quantitative Analysis.

Course 7 extends through the year, and is intended to fit the student for work in the laboratories of agricultural experiment stations, fertilizer works, iron-works, sugar refineries, etc., and for the duties of the public analyst. This course will be made to fit the end which each has in view, and will be largely an individual one. For those students in the Chemical Division of the Agricultural Course the analyses made will tend in the main toward agricultural products, fertilizers, mucks, marls, manures, dairy products, waters, food-stuffs, sugars, etc. For the student wishing to enter metallurgical works, the analyses will be in the main upon iron, steel, and other metals, ores, limestone, slags, alloys, fuels, etc. As a preparation for the study of medicine, work will be done on poisons, foods, drugs, urine, etc. Other lines will be arranged to meet the wants of the individual student. Each student will be given some practice in all of the branches of agricultural, metallurgical, medical, sanitary, and industrial chemistry, in order to lay a foundation for any future work which may be required of him. A short course in gas analysis will also be provided. A portion of the time of the last two terms is given to work bearing upon the preparation of a graduating thesis.

Open to students who have completed Course 4.

8. Organic Chemistry. *Thirty exercises.*

Course 8, for students in the Chemical Division of the Agricultural Course, and in the Technical Chemistry Course, consists of laboratory practice by the students in preparing and purifying products relating to their respective lines of work.

Open to those who have completed Course 3.

9. Chemical Journals, Methods, etc. *Thirty-five exercises.*

The work consists of the study of current chemical literature, which is mainly in the German language, with recitations once a week throughout the year. Each student will be expected to prepare abstracts, reports, criticisms, etc., upon assigned articles.

Open to students taking Course 7.

10. Chemical Philosophy. Lectures and Recitations.

a. Twenty exercises. *b. Twenty exercises.*

The work consists of advanced study of chemical theory. Practical experiments will be performed, with the aid of the student, in the determination of vapor density, molecular weights, specific heat, etc.; and the study of isomorphism, diffusion of gases, solutions, molecular and atomic volume, the chemistry of space, etc., will take up much of the time.

Course 10 comes in alternate years with Course 6, and is open to students who have completed Courses 1, 2, and 3.

DRAWING.

Two and one half hours' work is reckoned as one exercise.

1. Freehand and Instrumental Drawing.

a. Thirty exercises. *b. Twenty exercises.*

Course for women.

c. Seventy-five exercises. *d. Fifty exercises.*

Freehand drawing in outline and in light and shade, from geometric models, common objects, and casts of historic ornament. Machine sketching and the use of instruments.

2. Freehand and Instrumental Drawing.

a. Twenty exercises. *b. Thirty exercises.*

Light and shade drawing from the cast and from still life; pencil sketching; design details of building construction; projection drawing.

3. Descriptive Geometry and Drawing.

a. Thirty exercises. *b. Twenty exercises.* *c. Thirty exercises.*

Recitations and drawing exercises in the solution of problems in plane and solid geometry, by means of orthographic projections.

Course 3 is open only to those who have taken Mathematics 2.

4. Mechanical drawing.

a. Twenty exercises.

Recitations on shades and shadows and perspective, with exercises in perspective drawing and line shading.

b. Thirty exercises.

Exercises in making dimension drawings for the use of workmen; tracing and blue-printing.

5. Freehand and Instrumental Drawing.

a. Forty-five exercises. b. Fifty exercises. c. Thirty exercises.

Study of architectural detail; design; use of color; pencil sketching; perspective; historic ornament.

6. Drawing and History of Painting.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

This course includes the drawing of antique figure from casts, pencil sketching, charcoal drawing, use of water colors, and the study of the history of painting.

ENGINEERING.

1. Surveying. *Fifty exercises.*

Recitations, field work, and plotting, including compass, transit, plane-table, and level work.

2. Mechanism. *Forty-five exercises.*

Recitations, and exercises in drawing outlines of elementary combinations of parts of machines, with special reference to the relative motion of the parts, their forms and modes of connection.

Course 2 is open only to those who have taken Drawing 3.

3. Mechanics of Engineering.

a. Thirty exercises. b. Fifty exercises. c. Fifty exercises.

Courses 3 a and 3 b are devoted to recitations in Statics and Dynamics; Course 3 c to Mechanics of Materials.

Course 3 is open only to those who have taken Mathematics 1 to 5, inclusive.

4. Materials of Construction. *Sixty exercises.*

Recitations on the production, properties, uses, and preservation of engineering materials.

Course 4 is open only to those who have taken Course 3 c and Chemistry 2.

5. Thermodynamics.

a. Forty-five exercises. *b. Thirty exercises.*

Course 5 is open only to those who have taken Courses 3 a, 3 b, and Physics 1 and 2.

6. Heat Motors. *Thirty exercises.*

Course 6 is open only to those who have taken Course 5.

7. Construction and Theory of Dynamos and Electromotors. *Forty-five exercises.*

Lectures and quizzes.

Course 7 is open only to those who have taken Physics 1 to 4 and Mathematics 1 to 5.

8. Work in Mechanical Laboratory.

a and *b*. Tests of Materials.

a. Thirty exercises. *b. Thirty exercises.*

c. Tests of Boilers and Engines. *Twenty exercises.*

Courses 8 a and 8 b are open only to those who have taken Course 3 c. Course 8 c is open only to those who have taken Course 5.

9. Machine design. *Forty exercises.*

Course 9 is open only to those who have taken Courses 3 and 4.

10. Applications of Electricity.

a. Forty exercises. *b. Thirty exercises.*

Lectures and recitations.

Course 10 is open only to those who have taken Physics 1, 2, 3, and 4.

11. Roads, Streets, and Pavements. *Thirty exercises.*

Recitations and lectures on construction and maintenance of paved, macadamized, and gravel roads, with discussion of laws relating thereto.

ENGLISH.

1. Rhetoric.

a. Thirty exercises. b. Twenty exercises. c. Twenty exercises.

2. Three Themes. *One each term.*

Required of all students registered in the Sophomore class.

3. Three Original Declamations. *One each term.*

Required of all students registered in the Junior class.

4. Three Original Declamations. *One each term.*

Required of all students registered in the Senior class.

5. Early English. *Forty-five exercises.*

Study of authors.

6. Elizabethan Writers. *Twenty exercises.*

Study of authors.

7. Writers of the Restoration and the French Influence. *Twenty exercises.*

8. Victorian Writers. *Forty-five exercises.*

9. English Romance. *Twenty exercises.*

10. American Literature. *Forty exercises.*

Lectures and study of authors.

11. Study of Words. *Twenty exercises.*

12. Advanced Rhetoric. *Twenty exercises.*

FRENCH.

1. Writers of the Nineteenth Century. *Forty-five exercises.*

Sketches from travelers; sight translations. Feuillet, Mérimée, Dumas.

2. The Modern Drama. *Thirty exercises.*

French composition and grammar. Selections from Scribe, Victor Hugo, Sandeau; the text will be made the basis of exercises in conversation.

3. French History and Popular Science. *Thirty exercises.*

The aim is to increase the student's vocabulary of practical if not strictly scientific, subjects.

4. Systematic Vocabularies. *Forty-five exercises.*

The French verb; modern writers. Words will be studied in classes, and the common expressions of every day life made familiar.

5. Idiomatic French. *Thirty exercises.*

Eighteenth Century writers, with French and English exercises on as large a number of idioms as time permits.

6. La Fontaine, Racine, Molière. *Thirty exercises.*

Translations in class supplemented by outside reading, on which the student will be examined.

GEOLOGY.

1. Elementary Geology. *Thirty exercises.*

2. Mineralogy. *Thirty exercises.*

A short course in blowpipe analysis, followed by laboratory practice in the determination and study of minerals, with special reference to their economic value.

Course 2 is open only to students who have taken Chemistry 1 and 2.

GERMAN.

1. German Grammar. *Forty-five exercises.*

Declension of nouns and adjectives; regular and irregular verbs; oral drill; written exercises.

2. Readings for Beginners. *Thirty exercises.*

German composition; critical study of verbs. Carefully graded selections of such a character as gradually to meet and master the difficulties of German syntax.

3. German Prose of the Nineteenth Century. *Thirty exercises.*

Conversation. Variety of vocabulary, and the mastery of the more common idioms, will be the aim of this Course.

4. German Prose of the Nineteenth Century, Continued. *Forty-five exercises.*

Grammar and composition. Review of the verb; selections from German newspapers. More difficult selections; sight translations.

5. German Plays, History, and Travel. *Thirty exercises.*

Conversational style adapted to oral drill in class. Selections from a large number of modern writers.

6. Scientific German. *Thirty exercises.*

The purpose of the Course is to familiarize the student with the vocabulary of scientific investigation.

7. German Prose Composition.

The work of some German author will be translated with the view of using the text as the basis for exercises in German prose composition. History of the literature.

8. Systematic Vocabularies.

A drill on the words and expressions of most frequent recurrence. Conversation continued.

9. Masterpieces of German Literature in connection with historical references.

Lessing, Goethe, Schiller.

The aim throughout the courses in French and German will be the discipline derived from their study and to make these languages thoroughly practical.

HISTORY.

In the courses in history an important place is given to historical reading carried on in the reference room. In some cases a considerable part of the work is written. Special attention is paid to the development of arts and institutions.

1. Mediaeval and Modern History to the beginning of the Seventeenth Century. *Sixty exercises.*

2. Modern History from the beginning of the Seventeenth Century to the French Revolution. *Thirty exercises.*

3. European Political History since the beginning of the French Revolution. *Thirty exercises.*

4. American History to 1825. *Sixty exercises.*

5. American Political History since 1825. *Thirty exercises.*

HORTICULTURE.

1. Principles of Plant Growth. *Forty-five exercises.*

This course is elementary and points out the fundamentals of horticulture. (Short course in agriculture.)

2. Elementary Horticulture. *Fifty exercises.*

Lectures and practice in laboratory, greenhouse, orchard, and ornamental grounds. A study of preparation of soil, drainage, and irrigation, fertilizers, tools, implements, and buildings. Propagation, multiplication, germination, transplanting, budding, grafting, and pollinating. (Short course in agriculture.)

3. Olericulture and Seed Growing. *Forty-five exercises.*

Lectures and recitations. References: Green's Vegetable Gardening, Henderson's Gardening for Profit, Brill's Seed Growing, and various special pamphlets.

Open only to those having completed Botany 1.

4. Arboriculture and Forestry. *Twenty exercises.*

The use of trees for shelter, shade, and ornament, and their propagation. Value of trees for timber. How to improve existing woodlands. Influence of forests upon soils, crops, and climate. Establishment and management of plantations of forest trees.

5. Winter Gardening. *Twenty exercises.*

The construction and management of greenhouses; crops of the vegetable forcing-house. References: Bailey's Forcing Crops; Taft's Greenhouse Construction.

6. Pomology and Viticulture. *Forty-five exercises.*

References: Downing's Fruit and Fruit Trees of America, Thomas's American Fruit Culturist, Barry's Fruit Garden, Fuller's Small Fruit Culturist.

Open only to those having completed Botany 2 and Zoölogy 3.

7. Horticultural Seminary. *Twenty exercises.*

Discussion of current literature; experiment station bulletins, and a study of various horticultural problems.

8. Horticultural Seminary. *Twenty exercises.*

A continuation of Course 6, together with practice in journalism.

9. Landscape Gardening and Floriculture. *Twenty exercises.*

The principles of aesthetics as applied to natural scenery; the adornment of home grounds, including management of house plants, climbing vines, and flowering bulbs.

MATHEMATICS.

1. Algebra completed. *Fifty exercises.*
2. Solid Geometry, with advanced course. *Fifty exercises.*
3. Plane and Spherical Trigonometry. *Fifty exercises.*
4. Analytic Geometry. *Seventy-five exercises.*

5. (*a*) Differential Calculus, (*b*) Integral Calculus.

One hundred exercises.

6. Astronomy. *Forty exercises.*

METEOROLOGY.

1. Meteorology. *Thirty exercises.*

Recitations and lectures on wind systems, precipitation, humidity, laws of storms and tornadoes, and methods of prediction of atmospheric changes.

MILITARY SCIENCE AND TACTICS.

1. Military Drill.

Practical instruction in drill and gymnastic exercises.
Four exercises per week throughout the course.

2. Military Tactics.

Theoretical instruction in drill regulations and the elementary principles of military science.
One exercise per week throughout the Freshman, Sophomore, and Junior years.

PHILOSOPHY.

1. Logic. *Thirty exercises.*

Lectures and recitations.

2. Psychology. *Forty-five exercises.*

Open only to students who have obtained a high average in Course 1.

3. Ethics. *Thirty exercises.*

Lectures and recitations.
Open only to students who have obtained a high average in Courses 1 and 2.

4. Elements of Philosophy. *Thirty exercises.*

Open only to students who have obtained a high average in Courses 1 and 2.

5. History of Philosophy. *Sixty exercises.*

Open only to students who have obtained a high average in Courses 1, 2, 3, and 4.

PHYSICS.

1. Mechanics. *Thirty exercises.*

2. (*a*) Heat, (*b*) Light. *Forty-five exercises.*

3. Sound. *Twenty exercises.*

4. Electricity and Magnetism. *Forty exercises.*

Courses 1, 2, 3, and 4 are a general introduction to the subject. The instruction is given by recitations and lectures, the latter being illustrated by experiments and stereopticon. Notes on lectures and experiments are submitted by each student.

5. Laboratory Work in Mechanics and Heat. *Forty-five exercises.*

6. Laboratory Work in Light and Sound. *Thirty exercises.*

7. Laboratory Work in Electricity and Magnetism. *Thirty exercises.*

The work consists in the experimental verification of the laws of physics and the determination of physical constants; for example, the student will by experiments investigate the intensity of gravity, co-efficients of friction, the analytical balance, elasticity of wires, specific heats, laws of radiation and absorption of heat, candle power of lights, dip, declination, and intensity of the earth's magnetism, laws of electric currents, of electro-magnets, etc. A systematic and carefully written report on each experiment is required.

Courses 5, 6, and 7 are taken consecutively and are open only to those who have passed in Courses 1, 2, 3, and 4. Students in Engineering must also have passed in Mathematics 1 to 5, inclusive.

8. Theoretical Electricity.
a. Forty exercises. *b. Thirty exercises.*

This course includes the subjects of electrostatics, magnetism, and electro-dynamics as treated mathematically.

Course 8 is open only to those who have passed in Courses 1 to 7.

9. Electrical Measurements. *Thirty exercises.*

The work will include the study of the principles and methods employed in electrical measurements,—such as resistance of wires and batteries, E. M. F. of batteries, current measurement by ammeter and electrolysis, use of the voltmeter, etc.

See also Engineering.

POLITICAL SCIENCE.

1. Political Economy. *Fifty exercises.*

An elementary course, with lectures upon some of the practical questions of the day.

2. Laws of Business. *Thirty-three exercises.*

Recitations supplemented by lectures and the discussion of cases.

3. American Constitutional Law. *Forty-two exercises.*

Use is made of Pomeroy's Constitutional Law, which is supplemented by the decisions of the United States Supreme Court. Special attention is given to the connection between American constitutions and American political history.

4. Advanced Political Economy. *Thirty exercises.*

A consideration of such subjects as banking, bimetallism, and tariff legislation.

Open only to those who have taken Course 1.

5. Advanced Political Economy, or Social Science. *Thirty exercises.*

Open only to those who have taken Courses 1 and 4.

6. International Law. *Thirty exercises.*

SHOP WORK.

Three hours' work in the shops is reckoned as one exercise.

1. Work in Wood Shop.

Exercises in carpentry, joinery, and pattern making.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

2. Work in Machine Shop.

Exercises in bench work, machine work, and shop measurements.

a. Forty-five exercises. *b. Thirty exercises.*
c. Thirty exercises. *d. Thirty exercises.*
e. Twenty exercises. *f. Twenty exercises.*

ZOOLOGY.

1. Introductory Zoölogy. *Forty-five exercises.*

A general introduction to the study of animal life, by means of lectures and laboratory dissections of the principal types.

2. Animal Biology. *Twenty exercises.*

A general study of the nature and processes of animal life, with especial attention to heredity, variation, development, and mental powers.

Open to students who have taken Course 1.

3. Entomology. *Thirty exercises.*

A review of the classification, structural characters, and biological relations of insects, with a special study of those injurious to cultivated crops and domestic animals, and of the means of preventing their injuries.

Open only to those who have taken Courses 1 and 2.

4. Economic Ornithology. *Fifteen exercises.*

Lectures on the relations of birds to agriculture, and their relations to each other and to other organisms.

Course 4 is open only to students who have taken Courses 1, 2, and 3.

5. Comparative Anatomy. *Ten exercises.*

6. Advanced Zoölogy.
Averaging four exercises a week for a year.

Course 6 is intended for those students who elect Zoölogy for their Senior year. It will usually be modified to suit individual needs. Open only to those who have completed all preceding courses, and shown special proficiency in Zoölogy.

7. Zoölogical Bibliography. *One hour a week for a year.*

Open only to students taking Course 6.

COURSES OF STUDY AND SCHEDULE OF HOURS.

For details, see Description of Studies.

Chapel exercises: 11.50 daily, except that on Sundays the exercises are held at 5 P. M. Attendance is required of all students.

Military Drill: Military Science 1. M., T., Th., F., 12 to 12.30. Attendance is required of all students.

Rhetoricals: Wednesdays, 12 to 12.30. Attendance is required of all students.

FRESHMAN YEAR.

For all Four-Year Courses.

FIRST TERM.

		Exercises per week.
Rhetoric—English 1*a*	Div. I. W. F. 9 Div. II. W. F. 8	2
Algebra and Geometry—Mathematics 1 and 2	Div. I. M. T. W. Th. F. S. 10 Div. II. M. T. W. Th. F. S. 11	6
*Shop Work—Shop work 1*a*.	W. Th. F. 1.30 to 4 . . .	3
Freehand Drawing—Drawing 1*a*.	M. T. 1.30 to 4 . . .	2
French—French 1.	T. Th. S. 8	3
Military Tactics—Military Science 2 .	Div. I. F. 11 Div. II. F. 10	

SECOND TERM.

Rhetoric—English 1*b*	Div. I. W. F. 9 Div. II. W. F. 8	2
Trigonometry—Mathematics 3	Div. I. M. T. W. Th. F. S. 10 Div. II. M. T. W. Th. F. S. 11	6
*Shop Work—Shop Work 1*b*.	W. Th. F. 1.30 to 4 . . .	3
Freehand Drawing—Drawing 1*b*.	M. T. 1.30 to 4 . . .	2
French—French 2.	T. Th. S. 8	3
Military Tactics—Military Science 2 .	Div. I. M. 11 Div. II. M. 10	

THIRD TERM.

Rhetoric—English 1*c*	Div. I. W. F. 9 Div. II. W. F. 8	2
Surveying—Engineering 1.	M. T. W. Th. F. 1.30 to 4 . .	5
Mechanics—Physics 1.	M. W. F. 10	3
Botany—Botany 1, or †Shop Work—Shop Work 1*c*.	T. Th. S. 9 to 11.50	3
French—French 3.	T. Th. S. 8	3
Military Tactics—Military Science 2 .	Div. I. W. 8 Div. II. W. 9	

* Women take additional Drawing and omit Shop Work.

† Shop Work is taken by students intending to complete either of the Engineering Courses, or the Course in Technical Chemistry; Botany is taken by all other students.

COURSE IN AGRICULTURE.

Sophomore Year.

FIRST TERM.

	Exercises per week.
Soil Physics—Agriculture 4. T. F. 11. Th. 1.30	3
Olericulture—Horticulture 3. M. W. S. 11	2
Introductory Zoölogy—Zoölogy 1. M. W. F. 1.30 to 4	3
Heat and Light—Physics 2. T. Th. S. 9	3
Inorganic Chemistry—Chemistry 1. M. W. F. 10	3
German—German 1. T. Th. S. 11	3
Military Tactics—Military Science 2. Th. 9 or 10.	
One Theme—English 2.	

SECOND TERM.

Stock Feeding—Agriculture 5. T. F. 11. Th. 1.30	3
Arboriculture and Forestry—Horticulture 4. T. Th. 10	2
Animal Biology—Zoölogy 2. W. F. 1.30 to 4	2
Comparative Anatomy—Zoölogy 5. S. 8	1
Sound and Electricity—Physics 3 and 4. T. Th. S. 9	3
Inorganic Chemistry—Chemistry 2. M. W. F. 10	3
German—German 2. T. Th. S. 11	3
Military Tactics—Military Science 2. Th. 9 or 10.	
One Theme—English 2.	

THIRD TERM.

Farm Equipment—Agriculture 6. T. F. 11. Th. 1.30 to 4	3
Entomology—Zoölogy 3. M. W. F. 1.30 to 4	3
Plant Diseases—Botany 2. M. W. 9 to 11	2
Organic Chemistry—Chemistry 3. M. F. 11	2
Electricity and Magnetism—Physics 4. T. Th. S. 9	3
German—German 3. T. Th. S. 11	3
Military Tactics—Military Science 2. M. 11.	
One Theme—English 2.	

Junior Year.

FIRST TERM.

Pomology—Horticulture 6. W. 9. Th. F. 1.30 to 4	3
Chemistry of Plant Growth—Chemistry. T. W. F. 8	3
Ornithology—Zoölogy 4. S. 8	1
German—German 4. M. W. F. 11	3
or Am. Political History—History 4. T. Th. S. 10 to 11.50 F. 1.30 to 4	4

Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 . 3
Early English—English 5. M. W. F. 10 3
Military Tactics—Military Science 2. Th. 8.
One Original Declamation—English 3.

SECOND TERM.

Food and Nutrition—Chemistry 5*b*. W. F. 8 2
Logic—Philosophy 1. M. W. F. 10 3
Geology—Geology 1. T. Th. S. 11 3
German—German 5. M. W. F. 11 3
or Am. Political History—History 5. T. Th. S. 9 to 11 3
Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 . 3
Elizabethan Writers—English 6. W. F. 9 2
Military Tactics—Military Science 2.
One original declamation.

THIRD TERM.

Farm Crops—Agriculture 7. T. Th. S. 9 3
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
English Literature—English 7. T. Th. 11 2
German—German 6. M. W. F. 11 3
or Modern History—History 3. T. Th. F. 1.30 to 4 . . 3
Mineralogy—Geology 2. M. W. F. 9 to 11 3
Military Tactics—Military Science 2. S. 11.
One original declamation—English 3.

Senior Year.

FIRST TERM.

Breeds of Live Stock—Agriculture 9. M. T. W. 1.30 . . 3
Agricultural Seminary—Agriculture 8. By appointment . 2
Laws of Business—Political Science 2 } T. W. Th. F. S. 9 5
Constitutional Law—Political Science 3 }
English Literature—English 8. T. Th. S. 10 3
Psychology—Philosophy 2. T. Th. S. 11 3
One original declamation—English 4.

SECOND TERM.

Principles of Breeding—Agriculture 11. M. T. W. 1.30 . 3
Horticultural Seminary—Horticulture 7. By appointment . 2
Dairying—Agriculture 10. By appointment. 2
International Law—Political Science 6. M. W. F. 11 . . 3
or Astronomy—Mathematics 6. T. W. Th. F. 9 . . 4

or Elements of Philosophy—Philosophy 4. T. W. Th. F. S. 9 . . . 5
Ethics—Philosophy 3. T. Th. S. 10 3
Advanced Political Science 4. T. Th. S. 11 3
One original declamation—English 4.

THIRD TERM.

Rural Economics—Agriculture 12. By appointment. . . . 2
Horticultural Seminary—Horticulture 8. By appointment . 2
Landscape Gardening—Horticulture 3
*Roads—Engineering 11. M. W. F. 10 3
*American Literature—English 10. T. W. Th. F. 9 . . . 4
*History of Philosophy—Philosophy 5. M. W. F. 11. S. 9 . 4
*Meteorology—Meteorology 1. T. Th. S. 10 3
*Advanced Political Economy—Political Science 5. T. Th. S. 11 3
One original declamation—English 4.

* Elect 9 hours.

BIOLOGICAL DIVISION OF THE AGRICULTURAL COURSE.

Students wishing to make a special study of the biological sciences relating to Agriculture—such as botany, entomology, and economic zoölogy—will elect in their senior year, the advanced courses in botany or zoölogy.

CHEMICAL DIVISION OF THE AGRICULTURAL COURSE.

The work in this division is intended especially to fit for the profession of an agricultural chemist—for work in experiment stations, large dairy establishments, fertilizer works, etc. Students wishing to take this course will elect, with the advice of the instructors in charge, seven hours per week of chemical work during the Junior year, and eight hours per week during the Senior year. Two years of German will be required in this course, and French is recommended to be taken by students intending to enter the division.

COURSES IN ENGINEERING.

Sophomore Year.

FIRST TERM.

		Exercises per week.
Analytic Geometry—Mathematics 4.	T. W. Th. F. S. 8	5
Descriptive Geometry—Drawing 3*a*.	M. W. 1.30 to 4	2
Heat and Light—Physics 2	Div. II. T. Th. S. 9 Div. I. T. Th. S. 10	3
German—German 1.	T. Th. S. 11	3
Shop Work—Shop Work 2*a*.	M. W. F. 9 to 11.45	3
Military Tactics—Military Science 2.	Th. 9 or 10.	
One Theme—English 2.		

SECOND TERM.

Differential Calculus—Mathematics 5*a*.	T. W. Th. F. S. 8	5
Descriptive Geometry—Drawing 3*b*.	M. W. 1.30 to 4	2
Sound and Electricity—Physics 3 and 4	Div. I. T. Th. S. 10 Div. II. T. Th. S. 9	3
German—German 2.	T. Th. S. 11	3
Shop Work—Shop Work 2*b*.	M. W. F. 9 to 11.45	3
Military Tactics—Military Science 2.	Th. 9 or 10.	
One Theme—English 2.		

THIRD TERM.

Integral Calculus—Mathematics 5*b*.	T. W. Th. F. S. 8	5
Electricity and Magnetism—Physics 4	Div. I. T. Th. S. 10 Div. II. T. Th. S. 9	3
German—German 3.	T. Th. S. 11	3
Descriptive Geometry and Perspective Drawing—Drawing 3*c* and 4*a*.	M. T. W. Th. F. 1.30 to 4	5
Military Tactics—Military Science 2.	M. 11.	
One Theme—English 2.		

Junior Year.

FIRST TERM.

Mechanics of Engineering—Engineering 3*a*.	W. F. 9	2
Mechanism—Engineering 2.	T. Th. S. 8 to 11	3
Inorganic Chemistry—Chemistry 1.	M. W. F. 10	3
Physical Laboratory—Physics 5.	M. T. W. 1.30 to 4	3
German—German 4.	M. W. F. 11	3
Shop Work—Shop Work 2*d*.	Th. F. 1.30 to 4	2
Military Tactics—Military Science 2.	W. 8.	
One original declamation—English 3.		

SECOND TERM.

Mechanics of Engineering—Engineering 3*b*. T. W. Th. F. S. 9	5
Inorganic Chemistry—Chemistry 2. M. W. F. 10 . . .	3
Physical Laboratory—Physics 5. M. T. W. 1.30 to 4 . .	3
German—German 5. M. W. F. 11	3
Shop Work—Shop Work 2*c*. Th. F. 1.30 to 4	2
Military Tactics—Military Science 2. S. 8.	
One original declamation—English 3.	

THIRD TERM.

Mechanics of Engineering—Engineering 3*c*. T. W. Th. F. S. 8	5
Mineralogy—Geology 2. M. W. F. 9 to 11	3
Physical Laboratory—Physics 7. M. T. W. 1.30 to 4 . .	3
German—German 6. M. W. F. 11	3
Shop Work—Shop Work 2*f*. Th. F. 1.30 to 4	2
Military Tactics—Military Science 2. S. 11.	
One original declamation—English 3.	

COURSE IN MECHANICAL ENGINEERING.

Senior Year.

FIRST TERM.

	Exercises per week.
Materials of Construction—Engineering 4. M. W. F. S. 11 .	4
Thermodynamics—Engineering 5*a*. M. 10. T. Th. 11 . .	3
Mechanical Drawing—Drawing 4*b*. F. S. 8 to 11 . . .	2
Mechanical Laboratory—Engineering 8*a*. Th. F. 1.30 to 4 .	2
Dynamos and Electro-Motors—Engineering 7. T. W. Th. 8	3
Chemical Laboratory—Chemistry 4. M. W. 1.30 to 4 . .	2
One original declamation—English 4.	

SECOND TERM.

Machine Design—Engineering 9. M. T. W. Th. 11 . .	4
Thermodynamics—Engineering 5*b*. M. F. S. 10 . . .	3
Mechanical Laboratory—Engineering 8*b*. W. Th. F. 1.30 to 4	3
Applications of Electricity—Engineering 10*a*. T. W. Th. 8. F. 11	4
Chemical Laboratory—Chemistry 4. M. T. 1.30 to 4 . .	2
One original declamation—English 4.	

THIRD TERM.

Heat Motors—Engineering 6. W. Th. F. 9	3
Mechanical Laboratory—Engineering 8*c*. M. T. 9 to 11.45 .	2
Thesis. M. T. W. 1.30 to 4	3

Applications of Electricity—Engineering 10*b*. W. Th. F. 11 . 3
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
One original declamation—English 4.

COURSE IN ELECTRICAL ENGINEERING.

Senior Year.

FIRST TERM.

	Exercises per week.
Materials of Construction—Engineering 4. M. W. F. S. 11	4
Thermodynamics—Engineering 5*a*. M. 10. T. Th. 11 .	3
Mechanical Drawing—Drawing 4*b*. F. S. 8 to 11 . . .	2
Mechanical Laboratory—Engineering 8*a*. Th. F. 1.30 to 4	2
Dynamos and Electro-Motors—Engineering 7. T. W. Th. 8	3
Chemical Laboratory—Chemistry 4. M. W. 1.30 to 4 . .	2
One original declamation—English 4.	

SECOND TERM.

Applications of Electricity—Engineering 10*a*. T. W. Th. 8. F. 11	4
Thermodynamics—Engineering 5*b*. M. F. S. 10 . . .	3
Mechanical Laboratory—Engineering 8*b*. W. Th. F. 1.30 to 4	3
Theoretical Electricity—Physics 8*a*. M. T. W. Th. 11 . .	4
Chemical Laboratory—Chemistry 4. M. T. 1.30 to 4 . .	2
One original declamation—English 4.	

THIRD TERM.

Heat Motors—Engineering 6. W. Th. F. 9	3
Applications of Electricity—Engineering 10*b*. W. Th. F. 11	3
Theoretical Electricity—Physics 8*b*. W. F. 10 . . .	2
Thesis. W. 1.30 to 4. Th. F. 1.30 to 3	3
Political Economy—Political Science 1. T. W. Th. F. S. 8 .	5
One original declamation—English 4.	

COURSE IN TECHNICAL CHEMISTRY.

Sophomore Year.

FIRST TERM.

	Exercises per week.
Analytic Geometry—Mathematics 4. T. W. Th. F. S. 8 .	5
Descriptive Geometry—Drawing 3*a*. M. W. 1.30 to 4 . .	2
German—German 1. T. Th. S. 11	3

Inorganic Chemistry—Chemistry 1. M. W. F. 10 . . . 3
Heat and Light—Physics 2 . { Div. I. T. Th. S. 10 / Div. II. T. Th. S. 9 } 3
Military Tactics—Military Science 2. Th. 9 or 10.
One Theme—English 2.

SECOND TERM.

Differential Calculus—Mathematics 5*a*. T. W. Th. F. S. 8 . 5
Descriptive Geometry—Drawing 3*b*. M. W. 1.30 to 4 . . 2
German—German 2. T. Th. S. 11 3
Inorganic Chemistry—Chemistry 2. M. W. F. 10 . . . 3
Sound and Electricity—Physics 3 and 4 { Div. I. T. Th. S. 10 / Div. II. T. Th. S. 9 } 3
Military Tactics—Military Science 2. Th. 9 or 10.
One Theme—English 2.

THIRD TERM.

Integral Calculus—Mathematics 5*b*. T. W. Th. F. S. 8 . 5
Mineralogy—Geology 2. M. W. F. 9 to 11 3
German—German 3. T. Th. S. 11 3
Organic Chemistry—Chemistry 3. W. F. 11 2
Electricity and Magnetism—Physics 4 { Div. I. T. Th. S. 10 / Div. II. T. Th. S. 9 } 3
Military Tactics—Military Science 2. M. 11.
One Theme—English 2.

Junior Year.

FIRST TERM.

Chemistry of Plant Growth—Chemistry 5*a*. T. W. F. 8 . 3
Shop Work—Shop Work 2*a*. W. Th. 9 to 11 2
German—German 4. M. W. F. 11 3
Chemical Laboratory—Chemistry 4 and 7. Th. F. 1.30 to 4. M. F. 9 to 11. S. 9 to 11.45. M. T. W. 1.30 to 4 . . . 8
Military Tactics—Military Science 2. Th. 8.
One original declamation—English 3.

SECOND TERM.

Chemical Laboratory—Chemistry 7. M. T. W. Th. F. 1.30 to 4. M. 9 to 11 6
Applied Chemistry—Chemistry 6*a*. T. W. 10 2
Mechanics of Engineering—Engineering 3*a*. T. W. Th. F. S. 9 5
German—German 5. M. W. F. 11 3
Military Tactics—Military Science 2. S. 8.
One original declamation—English 3.

THIRD TERM.

Chemical Laboratory—Chemistry 7. M. T. W. Th. F. 1.30 to 4. S. 9 to 11 6
Applied Chemistry—Chemistry 6*b*. M. W. 8 2
Mechanics of Engineering—Engineering 3*c*. T. W. Th. F. S. 8 5
German—German 6. M. W. F. 11 3
Military Tactics—Military Science 2. S. 11.
One original declamation—English 3.

SENIOR YEAR.

FIRST TERM.

Chemical Laboratory—Chemistry 7. M. W. F. 1.30 to 4. T. Th. 9 to 11. W. 9 to 11.50. F. 8 to 11.50 7
Organic Chemistry—Chemistry 8. T. Th. 1.30 to 4 . . 2
Chemical Journals—Chemistry 9. S. 11 1
Thermodynamics—Engineering 5*a*. M. 10. T. Th. 11 . 3
Dynamos and Electro-Motors—Engineering 7. T. W. Th. 8 3
One original declamation—English 4.

SECOND TERM.

Chemical Laboratory—Chemistry 7 and Thesis. Th. F. 1.30 to 4. T. Th. F. S. 8 to 10. W. 8 to 11.50 7
Thermodynamics—Engineering 5*b*. M. F. S. 10 . . . 3
Chemical Journals—Chemistry 9. S. 11 1
Chemical Philosophy—Chemistry 10*a*. T. Th. 10 . . . 2
Electrical Measurements—Physics 9. M. T. W. 1.30 to 4 . 3
One original declamation—English 4.

THIRD TERM.

Chemical Laboratory—Chemistry 7 and Thesis. M. T. W. Th. F. 1.30 to 4 5
Chemical Journals—Chemistry 9. S. 11 1
Chemical Philosophy—Chemistry 10*b*. T. Th. 11 . . . 2
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
Meteorology—Meteorology 1. T. Th. S. 10 3
One original declamation—English 4.

GENERAL COURSE.

This course gives to students an opportunity to take parts of the courses in Agriculture and the Mechanic Arts: to pursue the study of English, French, German, and History each

for two or more years: to devote to Philosophy one year and to Mathematics and the Sciences the time usually allowed in colleges. With its arrangement of elective studies it is fitted to serve at the same time as a course for women and as a preparation for professional study or business life.

Sophomore Year.

FIRST TERM.

Introductory Zoölogy—Zoölogy 1. M. W. F. 1.30 to 4 . .	3
German—German 1. T. Th. S. 11	3
Inorganic Chemistry—Chemistry 1. M. W. F. 10 . . .	3
Heat and Light—Physics 2 . . { Div. 1. T. Th. S. 10; Div. II. T. Th. S. 9 }	3
Medieval and Modern History—History 1. W. F. 11. T. Th. 1.30 to 4. or, Analytic Geometry—Mathematics 4. T. W. Th. F. S. 8	4 or 5
Military Tactics—Military Science 2. Th. 9 or 10.	
One Theme—English 2.	

SECOND TERM.

German—German 2. T. Th. S. 11	3
Inorganic Chemistry—Chemistry 2. M. W. F. 10 . . .	3
Sound and Electricity—Physics 3 and 4 { Div. I. T. Th. S. 10; Div. II. T. Th. S. 9 }	3
*Modern History—History 2. M. T. Th. 1.30 to 4 . . .	3
*Animal Biology—Zoölogy 2. W. F. 1.30 to 4 . . .	2
*Advanced Freehand Drawing—Drawing 2*a*. W. F. 8 to 10	2
*Study of Words—English 11. W. F. 11	2
*Differential Calculus—Mathematics 5*a*. T. W. Th. F. S. 8	5
Military Tactics—Military Science 2. Th. 9 or 10.	
One Theme—English 2.	

* Elect 7 hours.

THIRD TERM.

German—German 3. T. Th. S. 11	3
Electricity and Magnetism—Physics 4 { Div. I. T. Th. S. 10; Div. II. T. Th. S. 9 }	3
*European History since 1789—History 3. T. Th. F. 1.30 to 4	3
*Entomology—Zoölogy 3. M. W. F. 9 to 11	3
*Organic Chemistry—Chemistry 3. W. F. 11	2
*Advanced Freehand Drawing—Drawing 2*b*. M. W. F. 9 to 11	3
*Advanced Rhetoric—English 12. Th. F. 1.30 to 4 . .	2
*Integral Calculus—Mathematics 5*b*. T. W. Th. F. S. 8 .	5
Military Tactics—Military Science 2. M. 11.	
One Theme—English 2.	

* Elect 10 hours.

Junior Year.

FIRST TERM.

German—German 4. M. W. F. 11 3
American Political History—History 4. T. Th. S 10 to 11.50
F. 1.30 to 4 4
Early English—English 5. M. W. F. 10 3
Military Tactics—Military Science 2. W. 8 or Th. 8.
One original declamation—English 3.
*Chemistry of Plant Growth—Chemistry 5*a*. T. W. F. 8 . 3
*Economic Ornithology—Zoölogy 4. S. 8 1
*Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 . 3
*Physical Laboratory—Physics 4. M. T. W. 1.30 to 4 . . 3
*Drawing—Drawing 5 a. T. Th. 8 to 10. Th. 1.30 to 4 . 3

* Elect 6 hours.

SECOND TERM.

German—German 5. M. W. F. 11 3
American Political History—History 5. T. Th. S. 9 to 11 . 3
Elizabethan Writers—English 6. W. F. 9 2
Military Tactics—Military Science 2. S. 8.
Logic—Philosophy 1. M. W. F. 10 3
One original declamation—English 3.
*Geology—Geology 1. T. Th. S. 11 3
*Food and Nutrition—Chemistry 5*b*. W. F. 8 2
*Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 . 3
*Physical Laboratory—Physics 5. M. T. W. 1.30 to 4 . . 3
*Drawing—Drawing 5*b*. T. Th. S. 8. Th. F. 1.30 to 4 . 2 or 5

* Elect 5 hours.

THIRD TERM.

German—German 3. M. W. F. 11 3
Mineralogy—Geology 2. M. W. F. 9 to 11 3
Writers of Restoration—English 7. T. Th. 11 2
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
Military Tactics—Military Science 2. S. 11.
One original declamation—English 3.
*Drawing—Drawing 5 c. T. Th. S. 9 to 11 3
*Chemical Laboratory—Chemistry 5. M. T. W. 1.30 to 4 . 3
*Physical Laboratory—Physics 6. M. T. W. 1.30 to 4 . . 3

* Elect 3 hours.

Senior Year.

FIRST TERM.

English 4 required; sixteen exercises elective.

One original declamation—English 4.
Constitutional Law—Political Science 3 } T. W. Th. F. S. 9 5
Laws of Business—Political Science 2 }
German—German 7 } M. W. F. 10 3
or French—French 4 }
Victorian Writers—English 8. T. Th. S. 10 3
Psychology—Philosophy 2. T. Th. S. 11 3
Thesis Work 2
Chemical Laboratory—Chemistry 7. M. T. W. 1.30 to 4 . 3
Advanced Zoölogy—Zoölogy 6. M. T. W. Th. 1.30 to 4 . . 4
Advanced Botany—Botany 3. M. T. W. 1.30 to 4 . . . 3
Advanced Zoölogy—Zoölogy 6. M. T. W. Th. 1.30 to 4 . . 4
1.30 to 4 3

SECOND TERM.

English 4 required; sixteen exercises elective.

One original declamation—English 4.
German—German 8 } M. W. F. 10 3
or French—French 5 }
Astronomy—Mathematics 6. T. W. Th. F. 9 4
International Law—Political Science 6. M. W. F. 11 . . 3
Thesis Work . . . . . 1 or 2
English Romance—English 9. Th. F. 3 2
Elements of Philosophy—Philosophy 4. T. W. Th. F. S. 9 . 5
Ethics—Philosophy 3. T. Th. S. 10 3
Advanced Political Economy—Political Science 4. T. Th. S. 11 3
Chemical Laboratory—Chemistry 7. M. T. W. 1.30 to 4 . 3
Advanced Zoölogy—Zoölogy 6. M. T. W. 1.30 to 4 . . . 3
Advanced Botany—Botany 3. M. T. W. 1.30 to 4 . . . 3
Advanced Drawing and Painting—Drawing 6*b*. M. T. W.
1.30 to 4 3

THIRD TERM.

English 4 required; fourteen exercises elective.

One original declamation—English 4.
American Literature—English 10. T. W. Th. F. 9 . . . 4
German—German 9 } M. W. F. 10 3
or French—French 6 }
Meteorology—Meteorology 1. T. Th. S. 10 3

Roads—Engineering 11. M. W. F. 10 3
History of Philosophy—Philosophy 5. M. W. F. 11. S. 9 . 4
Advanced Political Economy—Political Science 5. T. Th. S. 11 3
Chemical Laboratory—Chemistry 7. M. W. F. P. M. . . 3
Advanced Zoölogy—Zoölogy 6. M. W. F. P. M. . . . 3
Advanced Botany—Botany 3. M. W. F. P. M. 3
Advanced Drawing and Painting—Drawing 6c. M. W. F. P. M. 3

THE PREPARATORY YEAR.

The preparatory year, first offered in 1897, is intended to meet a demand which has been made in certain sections of the state where students have with difficulty secured adequate preparation for admission to the Freshman class. It also makes the four years' course of additional value by increasing the requirements for admission to that class.

COURSE OF STUDY AND SCHEDULE OF HOURS.

FIRST TERM.

Exercises per week.

Higher Algebra. M. W. F. 3 3
Plane Geometry. T. Th. 3. W. F. 9 4
Rhetoric, with Study of Authors. M. W. F. 11 . . . 3

For description of work, see Requirements for Admission, page 16.

French Grammar. T. Th. S. 9 3

A drill in the essentials for accurate translation.

Grecian History. T. Th. S. 11 3

SECOND TERM.

Higher Algebra. M. W. F. 3 3
Plane Geometry. T. W. Th. F. 8 4
Rhetoric, with Study of Authors. T. Th. S. 11 . . . 3
French Reader. T. Th. S. 9 3

Easy selections; irregular verbs.

Roman History. M. W. F. 11 3

THIRD TERM.

Study of Authors. W. F. 8 2
Readings from French History. T. Th. S. 9 3

Study of variety of style and peculiarities of syntax.

Elementary Physics. M. T. W. Th. F. S. 11 6
Introductory Botany. M. T. W. Th. F. 1.30 to 4 5

A general introduction to the study of plants by means of laboratory work and lectures.

THE TWO YEARS' COURSE IN AGRICULTURE.

The Two Years' Course in Practical and Theoretical Agriculture provided for by the Legislature of 1895 was established for and is open to "students who can pass a fair and reasonable examination in reading, spelling, writing, arithmetic, English grammar, and the geography and history of the United States." This course is especially devoted to the study of practical and theoretical agriculture in its various branches, and the natural sciences, which are so closely related to successful farming. At least ten hours each week are spent in practical exercises, which, so far as possible, are educational in their nature. This work is done on the farm, or in the garden, barn, greenhouse, or shop.

The course offers unusual opportunities to young men to obtain in a short time and at small expense a knowledge of the fundamental principles of agriculture.

COURSE OF STUDY AND SCHEDULE OF HOURS.

FIRST TERM.

Elements of Agriculture—Agriculture 1 4
Principles of Plant Growth—Horticulture 1 4
Algebra. T. Th. S. 9 3
Grammar—English Grammar and Composition. W. F. 9 . 2
Drawing. M. T. 1.30 to 4 2

SECOND TERM.

Dairying—Agriculture 2. By appointment. 4
Breeds and Breeding—Agriculture 3 4
Algebra. T. Th. S. 9 3
Grammar. W. F. 9 3
Drawing. M. T. 1.30 to 4 2

THIRD TERM.

Botany. M. T. W. Th. F. 1.30 to 4	5
Chemistry. By appointment.	3
Physics. M. T. W. Th. F. S. 11	5
Algebra. T. Th. S. 9	2
Geography. T. Th. 10 to 12	2

SECOND YEAR.

FIRST TERM.

Soil Physics—Agriculture 4. T. F. 11. Th. 1.30	4
Olericulture—Horticulture 3. M. W. S. 11	3
Introductory Zoölogy—Zoölogy 1. M. W. F. 1.30 to 4	3
English—English. Th. F. 9	2
Geometry—Mathematics. M. W. F. 9	3

SECOND TERM.

Stock Feeding—Agriculture 5. T. F. 11. Th. 1.30	4
Winter Gardening—Horticulture 5. M. W. 11	2
Arboriculture and Forestry—Horticulture 4. T. Th. 10	2
Comparative Anatomy—Zöology 5. S. 8.	1
Animal Biology—Zoölogy 2. W. F. 1.30 to 4	2
English—English, T. Th. 9	2
Geometry—Mathematics. M. W. F. 9	3

THIRD TERM.

Farm Equipment—Agriculture 6. T. F. 11. Th. 1.30	3
Fruit Growing—Horticulture. M. T. W. Th. S. 10	5
Entomology—Zoölogy 3. M. W. F. 1.30 to 4	3
English—English. T. Th. 9	2
Commercial Fertilizers—Chemistry. W. S. 11. F. 10	3

TEN WEEKS' WINTER COURSE IN AGRICULTURE.

The college offers a Winter Course in agriculture, beginning Thursday, January 12, and continuing until Wednesday, March 22, 1899.

No entrance examination is required, but students taking the course should possess a common school education.

The studies offered are dairying, stock-feeding, winter gardening, wood-working, forestry, and entomology, with practice in the creamery, barn, greenhouse, or wood-shop.

A fee of five dollars will be charged for tuition.

The expense of the course may be estimated as follows:

Room and board, ten weeks, at $4 . .	$40.00
Tuition fee	5.00
Books	5.00
Total	$50.00

Applicants should report at the president's office, Thompson Hall, Durham, on Wednesday, January 12, 1898.

TEN WEEKS' COURSE IN DAIRYING.

This course is offered in connection with the Winter Course in Agriculture, to young men who wish to make a specialty of dairying. It is designed for those who are specially desirous of mastering the art of butter-making, or who wish to become fitted for the position of manager or superintendent of a creamery. In New Hampshire, where dairying is carried on to a great extent in the sale of milk for the city markets, thus course is especially valuable as a training for those operating farm dairies.

The course in dairying begins January 12, 1899, and closes March 22. The subjects taught are butter-making, milk testing, pasteurizing milk and cream, dairy bacteriology, dairy farming, dairy chemistry, and care of steam engines and boilers.

The creamery is equipped with separator, milk tester, pasteurizer, and all tools required in making butter and preparing milk and cream for market.

Requirements for admission are the same as for the Winter Course in Agriculture.

ESTIMATE OF EXPENSES.

Room rent, ten weeks at $1 . . .	$10.00
Board, ten weeks at $3	30.00
Fee	5.00
Books	3.00
Total	$48.00

For circulars or further information concerning the course, address President Charles S. Murkland, or Prof. C. M. Weed, Secretary, Durham, N. H.

NON-RESIDENT COURSE IN AGRICULTURE.

The Non-resident Course in Agriculture conducted by the New Hampshire College of Agriculture and the Mechanic Arts was established in January, 1894, and has been in successful operation ever since. The course is primarily designed to meet the needs of those farmers' sons who are unable to leave home to attend college, but who feel the need of the fuller knowledge of their work which the college offers.

The course is conducted as a correspondence course, books being sent the student, who studies them and returns answers to examination questions. A circular giving full information concerning this course will be sent upon application.

GENERAL INFORMATION.

ATTENDANCE.

All regular students are required to attend chapel and rhetorical exercises, and to register for at least sixteen exercises per week; all male students are required to attend military drill.

TERM BILLS.

Tuition and fees are payable in advance, in two equal instalments: One on the first day of the fall term, and one on the first day of the winter term, of each year.

ELECTION OF STUDIES.

Every student must, on the Saturday before the last in each term, notify in writing the secretary of the faculty of his elections for the term following. Any student who, having made his elections, desires to change, shall make application to the faculty in writing, with a statement in full of his reasons.

CONDITIONAL ADMISSION.

Students admitted conditionally to the preparatory year must make up all conditions before admission to the Freshman class. Students admitted conditionally to the Freshman class must make up all conditions before admission to the Sophomore class.

CLASSIFICATION OF STUDENTS.

Students are not catalogued in a class until they have completed three fourths of the work in each of the previous years.

DEGREES.

The degree of Bachelor of Science will be conferred upon those who complete a four-years course or its equivalent.

The regular work of the Senior class, including the regular final examinations, is completed at 4 P. M. on the Tuesday of the week preceding Commencement; and each member of the class may receive a statement of his standing at the office of the secretary of the faculty at 2 P. M. on the next day, Wednesday. All work required for graduation must be completed by 6 P. M. of the Saturday of the same week.

Each candidate for a degree must prepare a thesis on some subject relating to the studies he has taken.

After the satisfactory completion of an appropriate amount of post-graduate work, advanced degrees will be given.

POST-GRADUATE STUDY.

The college offers opportunities for post-graduate study in agriculture, biology, chemistry, and engineering.

SPECIAL STUDENTS.

Any person of mature years may be admitted as a special student, by vote of the faculty, upon presenting satisfactory evidence of ability to complete the desired course of study.

PARTIAL COURSE STUDENTS.

A student taking less than the regular work, or having a deficiency that has continued for more than one year, is considered a partial course student.

COURSES FOR WOMEN.

Women attending the college may elect any course laid down in the curriculum, subject to the conditions prescribed for all students. They may omit manual labor on the farm and in the shop, and substitute other studies.

The General Course, with its electives, is specially prepared for women, and is so planned that special courses may be arranged in literature, languages, history, philosophy, drawing, and manual training.

The courses in agriculture and chemistry afford opportunities for the study of the natural sciences, and the engineering courses offer exceptional advantages in mathematics and physics.

PRIZES.

I. The Smyth Prizes.—Hon. Frederick Smyth, of Manchester, N. H., offers to the members of the Senior and Junior classes two prizes, one of twenty dollars and the other of ten, for the best essays on subjects connected with agriculture or the mechanic arts; also three prizes, one of twenty, one of fifteen, and one of ten dollars, for excellence in oratory, open to the upper classes; also two prizes for reading, one of fifteen and one of ten dollars, open to the lower classes.

II. Bailey Prize.—Dr. C. H. Bailey, of Gardner, Mass., and E. A. Bailey, B. S., of Keene, N. H., offer a prize of ten dollars for proficiency in chemistry.

III. Erskine Mason Memorial Prize.—Mrs. Erskine Mason, of Stamford, Conn., has invested one hundred dollars as a memorial of her son, a member of the class of '93, the income of which is to be given, for the present, to that member of the Senior class who has made the greatest improvement during his course.

IV. Entrance Examination Prize of $500. See Valentine Smith Scholarships, page 64.

BUILDINGS.

THOMPSON HALL.

Thompson Hall, the main college building, has a length of 128 feet, exclusive of the porte cochère, which is 40 feet long, and a width of 93 feet in the widest part. It is built of granite and brick, and has three stories besides the basement.

One half of the first floor and basement is devoted to the library, which is provided with a large, well-lighted reading room for papers and magazines, a reference room for special work, a librarian's room, a delivery room, and shelf space for fifty thousand volumes.

The remainder of the first floor is used for offices, recitation rooms, and a waiting room for women.

On the second floor are more offices and recitation rooms, and the botanical and zoölogical laboratories and the museum.

On the third floor is the large hall used as an auditorium, two literary society rooms, and the bell-boy's room.

The building is lighted by gas and electricity, and provided with the most approved system of heating and ventilation.

CONANT HALL.

[Chemical and Physical Laboratories.]

Conant Hall contains the laboratories and lecture rooms for instruction in chemistry, physics, and electrical engineering. It is a substantial brick building, 92 by 70 feet, and three stories high, including the basement. It is heated by steam brought from the shops, lighted by gas and electricity, and provided with a system of thorough ventilation. Water, gas, high pressure steam, hydrogen, oxygen, vacuum, and blast are supplied through pipes whenever needed, and the lecture rooms in addition have switches controlling both dynamo and battery currents, and arrangements for stereopticon illustration.

The basement contains a small workshop, the battery, photometer, photographic and comparator rooms, a clock room protected by double walls against changes in temperature, an acid room, and a water and gas laboratory, provided with the necessary fixtures and appliances.

The first floor, with the exception of one room, is occupied by the physics department. It contains the mineralogical laboratory, which is provided with tile-covered desks and other facilities for blowpipe analysis; the junior physical laboratory; an apparatus room; a reading room and reference room for physical and electrical books and periodicals; an electrical laboratory, from the neighborhood of which masses of iron have been excluded, so that magnetic measurements can be made with a good degree of accuracy; and the physical lecture room, which is provided with all necessary conveniences,

as before mentioned. For optical experiments, the room can be darkened by means of special window-shutters, operated from one of the lecture desks. A stone pier between the two desks makes it possible to use delicate instruments.

The second floor is given up entirely to the chemical department. It contains storerooms, an organic laboratory, a qualitative laboratory, a private laboratory, a dark room for polariscopic and spectroscopic work, a lecture room provided with facilities as before described, a quantitative laboratory, and a room to contain the delicate chemical balances and most important reference works.

The laboratories are fitted up with the most modern accessories, and with special reference to the kind of work to be performed in each.

THE SHOP BUILDINGS.

The shops have been planned and built with the object of providing facilities for instruction in the working of wood and metals, and in the design, construction, care, and management of machinery. Incorporated with the shops is a central station for furnishing heat, light, water, and power, wherever needed in any of the college buildings; and the machinery of this station forms a part of the material equipment of the engineering departments.

The main shop building is 42 by 106 feet, and two stories high, with a basement 31 by 42 feet. In a separate one-story building, 40 by 100 feet, on a level with the basement of the main building, are the boiler house, forge shop, coal shed, and foundry.

In the boiler room, three boilers, aggregating one hundred and sixty horse-power, furnish steam to all the college buildings, wherever needed for heating or power. A brick chimney 95 feet high carries away the waste gases from the furnaces. The coal room provides for the storage of two hundred tons of coal conveniently near the boilers.

The basement of the main shop building is used as an engine-room, containing a forty horse-power engine, furnishing power for the shops and for the electric lighting; a dy-

namo for lighting the college buildings and campus; and the large steam pump, which receives water by gravity from the reservoir one half mile distant, and forces it through underground mains to the various hydrants and buildings. The engine-room serves as a power laboratory, and the machines mentioned, with others, will give to students opportunity for making efficiency tests.

On the first floor of the main shop building, a lavatory is provided. The largest room on this floor is the machine-shop, where there is opportunity for practice in the operations of working metals by cutting tools, both by hand work and by machinery.

The second floor of this building is mainly occupied by a wood shop, in which the common branches of carpentry, joinery, and pattern making are taught. Practice is given in the use of carpenter's tools, and in the care and operation of the machines of most general use in wood-working.

The shop buildings are constructed on the "slow-burning" principle, with thick walls, and heavy, continuous plank floors. The rooms are all well lighted and well ventilated.

APPARATUS.

The various chemical laboratories are supplied with a full line of such apparatus as is required in each. Besides all necessary glass and porcelain ware, this includes water baths; drying ovens, combustion, muffle, and assay furnaces; platinum dishes and crucibles; polariscope; spectroscope; balances; lantern and other lecture appliances, etc.

The physical laboratory is equipped with a good collection of the usual apparatus for laboratory work and lecture-room illustration, to which will be continually added pieces purchased or made in the college shop.

In electricity and magnetism, the equipment includes instruments of high precision, and of the latest forms, for the measurement of current electro-motive force and resistance, as well as others of less accuracy for elementary work.

For more strictly electrical engineering work, the depart-

ment has the five-hundred-light alternator used in lighting the college buildings, a direct-current "exciter" dynamo, all the apparatus of a complete fifty-five-light Edison isolated electric lighting plant, a Sorley storage battery of twenty-six cells, arc and incandescent lamps, and standard forms of voltmeter, ammeter, and transformer.

The zoölogical laboratory is well supplied with aquaria, microscopes, dissecting tools, charts, reference books, collections, etc.

The botanical laboratory is supplied with a good herbarium, microscopes, and the other necesssary appliances.

The surveying instruments are sufficient in number and of the most approved pattern.

MUSEUM.

The museum had for a nucleus the collections made during the state geological survey. To this additions have been made from various sources. Many specimens are being collected to illustrate zoölogy—especially entomology. It occupies a large, well-lighted room in the main building.

LIBRARY.

The library of the college consists of about six thousand bound volumes, besides pamphlets. A considerable part of these are new and expensive books, making good working libraries for the different departments of instruction, including economic science and English and American literature.

Students also have the free use of the Durham public library of about five thousand well-selected volumes.

The college supports a reading-room, which is well supplied with the leading American and foreign periodicals.

FARM.

The farm contains more than three hundred acres of valuable land. It has been provided partly from the funds given by Hon. John Conant, and partly from the Benjamin Thompson estate.

It is used for the purpose of an experiment station, for which it is considered by leading agriculturists to be especially fitted.

A model barn has been erected, at an expense of about ten thousand dollars.

SITUATION AND RAILROAD CONNECTIONS.

Durham is situated on the western division of the Boston & Maine railroad, sixty-two miles from Boston, and about midway between Rockingham Junction and the city of Dover, being five miles from the latter place.

PECUNIARY AID AND EXPENSES.

Tuition is $60 per year, although numerous scholarships give free tuition to many New Hampshire students.

CONANT SCHOLARSHIPS.

There are thirty Conant scholarships, each paying $40 and tuition, $60,—total $100. These are to be assigned under the following conditions:

1. They are to be given to young men taking an agricultural course.
2. Each town in Cheshire county is entitled to one scholarship, and Jaffrey is entitled to two.
3. Scholarships not taken by students from Cheshire county, and those in excess of the number of towns, are to be assigned to agricultural students at the discretion of the Faculty.

SENATORIAL SCHOLARSHIPS.

There are twenty-four senatorial scholarships,—one for each senatorial district. Each scholarship is to pay tuition, $60. Senatorial scholarships not filled can be assigned to students from other localities at the discretion of the Faculty; they are open to students in all courses.

Early application should be made for these scholarships. They will be reserved for those respective towns and districts until August 1 of each year, after which they may be otherwise assigned for the year.

These scholarships are given for the purpose of aiding deserving students, and will be withdrawn from those who use tobacco or intoxicating liquors, or show themselves not deserving. Janitorships, work on the farm, etc., also furnish assistance to a considerable extent.

VALENTINE SMITH SCHOLARSHIPS.

Through the generosity of Mr. Hamilton Smith of Durham, the sum of $10,000 has been given to the college to establish the Valentine Smith scholarships.

"The income thus accruing to the college shall be given to the graduate of an approved high school or academy who shall, upon examination, be judged to have the most thorough preparation for admission to the college, provided,

"That this income shall be paid to the student to whom it is awarded, in eight semi-annual payments, at the time appointed for the payment of term bills, and,

"That if the student receiving this scholarship shall at any time prove unworthy, in the judgment of the faculty, by reason of defective scholarship or character, he shall forfeit his claim to the student most deserving; and

"That if the student receiving this scholarship shall cease to be a member of the college, the income from this fund, for the unexpired term, shall be awarded to the student most deserving, in character and scholarship."

These scholarships, yielding $500 each, will be available to those applying for examination, June, 1898, and to one student in each succeeding class.

Expenses may be estimated as follows:

Tuition	Free	$60.00
Text-books	$10.00	20.00
*Fees	15.00	15.00
Room rent, including fuel . . .	18.00 to	40.00
Board, $3 to $3.50 per week, for 35 weeks	105.00 to	122.50
Total	$148.00	$257.50

* Including all charges commonly considered for extras, except those or breakage and damage to college property.

Room rent is estimated on the supposition that two students occupy the same room or suite of rooms.

Rooms may be obtained either furnished or unfurnished. Most of the rooms are in suites, and are in buildings provided with heating apparatus and bath rooms.

The college has no rooms for students.

In Q. T. V. Hall the expense of the best suites, with heating, is $70 per year.

In DeMeritt Hall the expense of board, room rent, in best suites, heating, furniture, and care of rooms is $4.50 per week, for each student.

For further information, address President Charles S. Murkland, or Prof. C. M. Weed, secretary of the Faculty.

AGRICULTURAL EXPERIMENT STATION.

This department of the college is provided for by the national government, at an annual expense of fifteen thousand dollars.

The act of congress provides,—

"That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping, as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states and territories."

NESMITH HALL.

Nesmith Hall, a brick building two stories in height, is used for the work of the Agricultural Experiment Station. It contains offices and working rooms, a reference library, a chemical laboratory, a bacteriological and microscopical laboratory, and an agricultural museum.

BOARD OF CONTROL.

Hon. FRANK JONES, *Chairman* . .	Portsmouth.
Hon. GEORGE A. WASON . . .	New Boston.
CHARLES W. STONE, A. M., *Secretary* .	East Andover.
Hon. JOHN G. TALLANT . . .	Pembroke.
Pres. CHAS. S. MURKLAND, *ex officio* .	Durham.

STATION COUNCIL.

CHARLES S. MURKLAND, A. M., Ph. D., *President and Acting Director.*
FRED W. MORSE, B. S., *Chemist and Vice-Director.*
CHARLES H. PETTEE, A. M., C. E., *Meteorologist.*
HERBERT H. LAMSON, M. D., *Bacteriologist.*
CLARENCE M. WEED, D. Sc., *Entomologist.*
FRANK WILLIAM RANE, B. Ag., M. S., *Horticulturist.*
CHARLES W. BURKETT, M. S., *Agriculturist.*

CLEMENT S. MORRIS, *Clerk.*
WILLIAM F. FISKE, *Assistant Entomologist.*
ELWIN H. FORRISTALL, B. S., *Assistant Agriculturist.*
ARTHUR GIVEN, B. S., *Assistant Chemist.*

PRIZE RECORD FOR 1898.

SMYTH PRIZES.

GIVEN BY HON. FREDERICK SMYTH, OF MANCHESTER, N. H.

Essay Writing.

1st. HARRY E. BARNARD.
2d. HARRY P. RICHARDSON.

Speaking:

1st. HERBERT F. MOORE.
2d. HARRISON E. CLEMENT.
3d. GRACE A. MARK.

Reading:

1st. ELMER E. LYON.
2d. BLANCHE M. FOYE.

BAILEY PRIZE.

GIVEN BY DR. C. H. BAILEY, OF GARDNER, MASS., AND E. A. BAILEY, B. S., OF KEENE.

ARTHUR GIVEN.

ERSKINE MASON MEMORIAL PRIZE.

GERRY AUSTIN MORGAN.

SENIOR STANDING HIGHEST IN THE MILITARY DEPARTMENT.

HERBERT FISHER MOORE.

WINNER OF INDIVIDUAL PRIZE DRILL.

CHARLES LUND HUNT.

ENTRANCE EXAMINATION PAPERS.*

I. ARITHMETIC.

1. Reduce $\frac{12012}{103740}$ to its lowest terms.

2. Divide $\frac{3}{2}$ of $\frac{5}{6}$ by $\frac{\frac{5}{3}}{\frac{4}{6}}$ and subtract the quotient from $\frac{2\frac{1}{2}}{4-\frac{2}{3}}$.

3. Upon what unit is the whole metric system based? How was that unit obtained? What is a gram?

4. What is the weight in grams of one cubic decimeter of pure water under standard conditions?

5. How many hectares in a rectangular piece of land 500 meters long and 25 meters wide?

6. The population of a certain city is 100,000. It has gained 20,000; what has been the gain per cent?

7. Extract the square root of $\frac{6\frac{1}{4}}{2\frac{1}{4}}$ to five decimal places.

8. If 4 men build 19 rods of wall in $2\frac{1}{2}$ days, in how many days will 7 men build 20 rods?

9. A, B, and C formed a partnership and cleared $20,000. A put in $8,000 for 4 months, and then added $2,000 for 6 months; B put in $16,000 for 3 months, and then withdrawing half his capital, continued the remainder for 5 months longer; C put in $13,500 for 7 months. How divide the profits?

10. Find the simple, the annual, and the compound interest on $1,000 for 2 years, 5 months, and 7 days, at 6 per cent.

II. ALGEBRA.

1. Define algebra, formula, radical, term, and factor, and give the signification of fractional and negative exponents.

2. From $3ax^2-(4a-2x)(x+2x)+a[y-(a+2y)]$ subtract $5a(x-y)+3a^2-2x^2(a+1)$.

* Given as specimens of average papers.

3. Multiply $a^2x^{-\frac{1}{3}}-3x$ by $b+2x^{-2}$.

4. Divide $4a^2y^3x^{\frac{2}{3}}$ by $-2a^3b^2yx^2$ and extract the cube root of the quotient.

5. $\frac{3a}{x}+\frac{2}{6y}=5.$ $\frac{4a}{x}-\frac{1}{6y}=2.$ Solve for x and y.

6. Obtain prime factors of a^3-x^3, a^3+x^3, and a^4-x^4.

7. Multiply $\sqrt{-x}$, $-\sqrt{-y}$, $-\sqrt{y}$ and $\sqrt{y}$.

8. $\frac{1}{a+\sqrt{a^2-x^2}}-\frac{1}{a-\sqrt{a^2-x^2}}=\frac{a}{x^2}.$ Solve for x.

9. Reduce $\frac{\sqrt{2}+\sqrt[3]{3}}{\sqrt{2}-\sqrt[3]{3}}$ to a fraction with a rational denominator.

10. $4ay^2-3by=c$. Solve for y.

III. PLANE GEOMETRY.

1. Define geometry, proposition, theorem, problem, axiom, postulate, corollary, scholium, right angle, perpendicular, parallel, magnitude, and form.

2. Define trapezoid, rhombus, regular polygon, apothem, sector of a circle, and segment of a circle. Name and explain the different kinds of triangles.

3. Give expressions for the circumference and area of a circle. State the relations existing between similar areas.

4. Demonstrate that if a perpendicular be erected at the middle of a line, any point in that perpendicular is equally distant from the extremities of the line; also that any point without is nearer the extremity on its own side of the perpendicular.

5. Demonstrate that if two lines are cut by a third, making the sum of the interior angles on the same side of the secant line equal to two right angles, the two lines are parallel.

6. Demonstrate that in the same or equal circles two incommensurable arcs are to each other as the angles which they subtend at the center.

7. Demonstrate that the opposite sides of a parallelogram are equal.

8. Demonstrate that triangles mutually equiangular are similar.

9. Construct a fourth proportional to three lines.

IV. PHYSICS.

1. Define motion, velocity, acceleration, mass, force, energy, work, heat, temperature, a ray of light, a mirror, a lens, magnetic substances, a conductor.

2. There are two equal forces of 10 units each acting upon the same body, and their lines of action are at right angles to each other. Find the resultant of the two forces.

3. A lever 10 feet long is supported on a fulcrum 4 feet from one end. At the shorter end is placed a weight of 150 pounds. What weight placed 1 foot from the other end of the lever will keep it horizontal?

4. Name and illustrate some of the effects of heat. What is the object of the thermometer? At what temperature Fahrenheit does water freeze? boil?

5. A beam of light strikes a pane of glass at an angle of 45 degrees. What angle will it make with the pane on passing into the air again? Give the reasons for the answer.

6. Explain what is meant by an echo.

7. Name some of the applications of electricity.

V. BOTANY.

1. Define germination, cotyledon, plumule, caulicle.

2. What is the purpose of the root? Name the different kinds of roots.

3. What is the purpose of the stem? Define rhizome, tuber, bulb.

4. What is an annual plant, a biennial, a perennial, an herb, a shrub, a tree?

5. Name the parts of a leaf. Name six different forms of leaf.

6. What is a compound leaf? Define stipule, bract, involucre.

7. Define raceme, head, spike, umbel, panicle, cyme.

8. Define calyx, sepal, petal, corolla, perianth, pollen, ovule.

9. What are the different parts of a stamen, of a pistil? What is a perfect flower, a complete flower? Define monecious, diecious.

10. What is a fruit, a multiple fruit, stone fruit, pod, capsule, follicle?

VI. PHYSICAL GEOGRAPHY.

1. Name the principal mountain chains of North America and South America. Give the situation of each.

2. Classify volcanoes. Locate and give an account of some of the principal ones.

3. Describe the Arctic current; the Japan current; and the equatorial currents of the Atlantic and the Pacific.

4. What are isothermal lines? If the earth were divided by isothermal lines into six zones, what would be included in each zone?

5. Draw a map of the United States and place upon it the isothermal lines which would pass through Central New Hampshire.

6. Give a comprehensive account of the St. Lawrence basin.

VII. HISTORY OF THE UNITED STATES.

1. Give a brief account of the Spanish exploration of North America.

2. What nations held territory in North America during the seventeenth century? What did each nation hold?

3. Give an account of King Philip's War.

4. Give an outline of the French and Indian War.

5. Give a brief but comprehensive account of the Siege of Yorktown (1781).

6. Give a brief account of the adoption of the Constitution.

7. Give the causes and results of the Mexican War.

8. Give a brief account of each acquisition of United States territory.

9. Give an account of the principal military operations during the year 1864.

10. Explain the Emancipation Proclamation and the Alabama claims.

VIII. GRECIAN HISTORY.

1. Give an account of the war between Sybaris and Croton.

2. Describe the different orders of Grecian architecture and explain the technical terms.

3. Compare the laws of Lycurgus with those of Solon.

4. Give an account of the siege of Plataea.

5. Give an account of the life and teachings of Socrates.

6. Give a description of the Parthenon.

7. Give some account of the Stoics and the Epicureans.

8. With fifty words for each, give an account of Croesus and Histiaeus.

9. Locate and, with a sentence for each, describe the following: Corcyra, Olympia, Egina, Delphi, Thebes.

10. Draw a map showing the location of the places mentioned in the above questions.

IX. ROMAN HISTORY.

1. Give an account of the classes of people found in Rome.

2. Give the history of the Laws of the Twelve Tables.

3. Give a history of the war with Pyrrhus.

4. Give an outline of the conquest of Gaul.

5. Give an account of the expedition of Crassus against the Parthians.

6-8. Give an account of each of the following, using about fifty words in each case: Sulla, Mark Antony, Caligula, Cicero, Vespasian, Titus.

9. Draw a map showing the Roman empire at its greatest extent.

10. Locate and, with a sentence for each, describe the following: Etruria, Numidia, Pannonia, Tarentum, Mauritania, Moesia, Sardinia, Po, Danube, Alps.

X. FRENCH.

1. Give five simple tenses of some regular verb of the first conjugation.
2. Give the principal parts of ten irregular verbs.
3. Give examples of different ways of forming the feminines of adjectives.
4. Count from 1 to 15.
5. The translation of a page of easy French.

XI. ENGLISH.

The composition should be correct in spelling, grammar, and punctuation.

I.

Select any *four* of the following topics and write a short composition on each:

1. The Minister's Black Veil.
2. The arrival of the Puritans at Merry Mount.
3. Mr. Higginbotham's Catastrophe.
4. A Rill from the Town Pump.
5. The White Old Maid.
6. Endicott and the Red Cross.
7. The Beginning of the Plague in London.
8. The Story of the Piper.
9. Defoe's Account of the Shutting up of Houses.
10. The Burial of those who died of the Plague.
11. My Opinion of the State of London during the Plague.
12. The Adventures of the Old Soldier, the Lame Sailor, and the Joiner.

II.

Omit *one*.

1. Give an account of Samuel Johnson's life until he left Oxford.
2. What were the relations between Johnson and Boswell? What is Macaulay's estimate of the latter?
3. What, according to Macaulay, were, in general, the circumstances of English men of letters at the time of Johnson's first arrival in London?

4. State the circumstances under which Johnson's edition of Shakespeare's plays was produced? What is Macaulay's opinion of the work?

5. What do you think of Johnson as a man?

ALGEBRA FOR PREPARATORY YEAR.

1. Define algebra, coëfficient, formula, term, factor, exponent, and root.

2. From $4ay-(3a+2ay)+(a-y)(a+y)$ take $2y^2-4a+7ay$.

3. Obtain prime factors of a^3-x^3 ; a^3+x^3 ; a^4-x^4.

4. Simplify $\dfrac{x-a}{x-\dfrac{(x-b)(x-c)}{x+a}}$

5. $\dfrac{6x+13}{15}-\dfrac{3x+5}{5x-25}=\dfrac{2x}{5}$. Solve for x.

6. Two bicyclists started at the same time from New York and Boston, a distance of 200 miles, traveling one at $9\frac{1}{2}$ miles an hour, the other at $9\frac{1}{4}$ miles an hour. In how many hours after starting did they meet, and how far from Boston ?

7. $ax+by=c$; $px+qy=r$. Solve for x and y.

8. Extract square root of $4x^4+9-30x-20x^3+37x^2$.

9. Cube $a+2b-3c$. Square $x-2y^2+ax$.

ENGLISH FOR PREPARATORY YEAR.

Use great care. Divide into paragraphs. Marked inaccuracy in spelling, grammar, or composition will be considered as a failure.

1. Write a simple sentence containing eight or more words, and tell what part of speech each word is.

2. Write a complex sentence and a compound sentence. Explain the difference between them.

3. Give the third person singular of the verb "lead" in all

the moods and tenses, in both the active and the passive voice.

4-6. Write fifty words upon each of the following:

(1) Changes made by the railroads of New England.

(2) Indian wars of New England.

(3) The New England town-meeting.

7. Correct the errors in the following sentences:

(1) The boy stood on the burning deck,
Whence all but he had fled.

(2) I am going and see him this afternoon.

(3) He hadn't seen what he had ought to do.

(4) Get up on to the platform.

(5) Try and read as many a good book as you can.

(6) I guess he will resign, for he told he was going to.

8. What is the proper difference (if any) in meaning between the two following?

I would do it if I could. I should do it if I could.

9. Which is the right expression,

He felt badly at his loss, or, He felt bad at his loss. If you substitute "discouraged" for "badly" or "bad," in the above, what part of speech will it be?

CATALOGUE OF GRADUATES.

BACHELORS OF SCIENCE.

NOTE.—The arrangement is; (*a*) Name in full. (*b*) Later degrees taken. (*c*) Residence at time of entering college. (*d*) Occupation, etc. (*e*) Present residence. * Dead.

1871.

William Preston Ballard, Concord. Farmer. *Concord.*
Lewis Perkins, Hampton. Railroad Contractor. *North Adams, Mass.*
Charles Henry Sanders, Penacook. Merchant. *Penacook.*
3—

1872.

Edwin Bartlett, Bath.
Frank Alexander White, Bow. Farmer and Surveyor. *Bow. P. O. Box 431, Concord, N. H.*
2—

1873.

Frederick Erasmus Eldredge, Kensington.
James Fred Smith, A. M. (Dartmouth, 1885), Principal Iowa College Academy. *Grinnell, Iowa.*
Charles Henry Tucker, Plaistow. Woodworker. *24 Highland Street, Amesbury, Mass.*
3—

1874.

Millard Fillmore Hardy, Nelson. Graduated Theo. Inst., Ct., 1878. Clergyman. *Townshend, Vt.*
*Henry Abbott Sawyer, North Weare. Business.
2—*1

1875.

Walton Herman Aldrich, M. D. (Univ. N. Y. City, 1880), Troy. Physician. *Marlborough.*
Frank Pierce Curtis, Stoddard. Manager of Store. *Greenfield, Mass.*
Frank Veranus Emerson, Lebanon. Manager Emerson Edge Tool Co. *East Lebanon.*

Charles Webster Hardy, M. D. (Mo. Med. Coll., 1881), Marlborough. Physician. *Waterville, Kan.*

Harvey Jewell, Winchester. Butler & Jewell, Nurserymen and Fruit Growers. *Cromwell, Ct.*

*Charles Ormille Leavitt, Lebanon.

*John Loney McGregor, D. D. S. (Phila. Dental Coll., 1877), M. D. (Dartmouth, 1883), Whitefield. Physician.

Eliel Peck, Lebanon. Merchant. *Kimball, Minn.*

Ira William Ramsey, Walpole. Farmer. *Walpole.*

Orlando Leslie Seward, Keene. Architect. *Keene.*

Emery Mason Willard, Harrisville. Druggist, with G. S. Cheney & Co., 15 Union St., Boston, Mass.
109 Hewlett St., Roslindale, Mass.

11—*2

1876.

Herbert Cyril Aldrich, Troy. Insurance and Real Estate. *Keene.*

Edmund Lawson Brigham, Jaffrey. Mechanic. *Clinton, Mass.*

Joseph Warren Butterfield, Westmoreland. Farmer. *North Montpelier, Vt.*

Arthur Frank Chamberlain, Westmoreland. General Salesman for Michigan. Edson, Keith & Co., Chicago.
6542 Kimback Ave., Chicago, Ill.

Anson Ballard Cross, Holyoke, Mass. Railroad Contractor, with Vandegrith & Jacobs, Philadelphia. *Wilmington, Vt.*

Warren Webster Kimball, Troy. E. P. Kimball & Son, General Store. *Troy.*

Daniel Deeth Parker, Fitzwilliam. Manufacturer. *Gardner, Mass.*

7—

1877.

Rollin Kirk Adair, Indian Territory. Farmer. *Locust Grove, Cherokee Nation, Indian Ter.*

*Homer Brooks, M. D. (N. Y. Hom. Med. Coll., 1881), Franconia.

John Washington Carson, Mont Vernon. Farmer. *Francestown.*

*Charles Otto Chubert, Troy.

*Charles Albert Edwards, LL. B. (State Univ., Iowa, 1880), Keene. Lawyer.

William Francis Flint, Richmond. Surveyor, Fruit Grower, and Forestry Expert. *Winchester.*

Clinton Camillus Hall, Westmoreland, Farmer. *East Westmoreland.*

John Goodrich Henry, M. D. (Dartmouth, 1880), Chesterfield. Physician. *Winchendon, Mass.*

Charles Pitkin Hollister, North Montpelier, Vt. Farmer. *North Montpelier, Vt.*

George Mirick Holman, M. D., Fitchburg, Mass. Chemist. *Fitchburg, Mass.*

Charles Appleton Hubbard, Troy. Comptroller of the Oregon Short Line Railroad Company, Boston. *Newton Center, Mass.*

Charles Augustus Wheeler, East Calais, Vt. Farmer and Bee Keeper. *Bracken, Corral Co., Texas.*

Everard Whittimore, Fitzwilliam. Agent, New York Life Insurance Co. *Hudson, Mass.*

13—*3

1878.

Ezra Eastman Adams, Manchester.

*Elmer Kilburn, Marlow. Civil Engineer.

Charles Edward Record, Fitchburg, Mass. Contractor and Builder. *Leominster, Mass.*

3—*1

1879.

Charles Hardy Bailey, M. D. (Dartmouth, 1881). Physician. *39 East Broadway, South Gardner, Mass.*

Richard Clinton Chapin, Chicopee, Mass. Agent for Nonotuck Paper Company. *Holyoke, Mass.*

Lucius M. Cragin, Lempster. Farmer and Surveyor. *Springfield, Vt.*

*Nathaniel Cutter Holmes, Jaffrey. Lawyer.

Fred Charles Parker, Lempster. Merchant. *Acworth.*

George Henry Wilkins, M. D. (N. Y. Hom. Med. Coll., 1883), Amherst. Physician. *Palmer, Mass.*

6—*1

1880.

Charles Harvey Hood, Derry. Milk Contractor. H. P. Hood & Sons, Boston, Mass. *20 Highland Ave., Somerville, Mass.*

1—

1881.

Edwin Thomas Aldrich, Troy. With G. H. Aldrich & Son, General Insurance Agents. *Keene.*

Henry Lyman Barnard, Troy. Clerk. *Troy.*

*George Jordan Boardman, Lawrence, Mass.

Edwin Franklin Bristol, Harwinton, Conn. Farmer and Mill Owner. *Ascutneyville, Vt.*

Artemas Terald Burleigh, Farmer. *Franklin.*

Frank Dana Ely, Cavendish, Vt. Business. *Cavendish, Vt.*

Sanford Eugene Emery, LL. B. (Albany Law School, 1886), Proctorsville, Vt. Lawyer. Postmaster. *Proctorsville, Vt.*

Charles Herbert Hazen, Hartford, Vt. Farmer. *Bethlehem.*

Frank Marston, Hartford, Vt. Merchant. *Olcott, Vt.*

William Augustus Megrath, M. D. (Dartmouth, 1885), Cavendish, Vt. Physician. *Loudon.*

Fred Townsend Stanton, Strafford. Farmer. *Strafford Corner.*

Victor Hugo Stickney, M. D. (Dartmouth, 1883), Tyson, Vt. Physician. President Electric Power & Coal Co. Vice-president First National Bank. *Dickinson, N. Dak.*

Samuel Austin Wallace, Ph. G. (Boston School of Pharmacy, 1886), West Hartford, Vt. Druggist. *Crookston, Minn.*

George Herbert Whitcher, Strafford. Professor of Agriculture and Director of Experiment Station (1887-'94). General Agent Bowker Fertilizer Co., Boston. *Durham.*

14—*1

1882.

Harvey Lincoln Boutwell, LL. B. (Boston Univ., 1886), Hopkinton. Lawyer, 209 Washington St., Boston. *37 Peirce St., Malden, Mass.*

Dana Justin Bugbee, North Pomfret, Vt. Agent for Publishers. *North Pomfret, Vt.*

Robert Fletcher Burleigh, M. D. (Dartmouth, 1887), Franklin. Physician. *Rochester.*

La Forrest John Carpenter, Surry. *Cliff St., Malden, Mass.*

Edwin Preston Dewey, Hanover. Civil Engineer. *Pasadena, Cal.*

George Andrew Loveland, LL. B. (Univ. of N. Y., 1886), Norwich, Vt. Observer and Section Director, U. S. Weather Bureau. *Lincoln, Neb.*

John Wright Mason, Hanover.

Harlan Addison Nichols, Derry. County Physician. *Fort Stockton, Texas.*

*Frank Elmer Thompson, Stark. Vice-president and Treasurer, Blackwater Lumber Co.

9—

1883.

Elmore Ferdinand Arnold, M. D. (Univ. City of N. Y., 1885), Londonderry, Vt. Physician. *New York, N. Y.*

Frank Landor Bigelow, Proctorsville, Vt. Instructor in Mathematics and Sciences, Goddard Seminary, Barre, Vt., 1883-'86. Business. *Rutland, Vt.*

Frederick Stocks Birtwhistle, Troy. Electrical Engineer, Foreign Dept., General Electric Co., 44 Broad St., New York. *Troy.*

Noice D. Bristol, Hawinton, Conn. Scenic Photographer. *176 Euclid Avenue, Cleveland, O.*

Frederick Plummer Comings, Lee. Trustee 1891—. Principal High School, South Yarmouth, Mass. *Lee.*

Frank Harry Follansbee, Canaan. Railway Mail Clerk. *Enfield.*

Adams Clark French, Franklin Falls.

James Edgar Gay, Tunbridge, Vt. Partner, Gay Brothers Cavendish Woolen Mills. *Cavendish, Vt.*

Elmer Daniel Kelley, Franklin Falls. Farmer and Market Gardener. *Franklin Falls.*

Alvah Benjamin Morgan, Canaan.

William Lincoln Whittier, Deerfield. Farmer and Manufacturer of Lumber. *Deerfield Center.*

Charles Minot Woodward, Hanover. Instructor in Agriculture, 1883-'84. Teacher of Science, High School. *Corsicana, Tex.*

12—

1884.

*Ernest Smith Cummings, Lee. U. S. Signal Service.

Fred Carlos Davis, South Reading, Vt. Lawyer. Clerk and attorney, Springfield Electric Railway Co. *Springfield, Vt.*

Sylvester Miller Foster, Riverhead, N. Y. With N. W. Foster & Son, General Insurance Agents. Secretary, Suffolk County Agricultural Society. Secretary and Treasurer, Riverhead Coal Co. *Riverhead, N. Y.*

Herbert Harvey Kimball, Hopkinton. Clerk, U. S. Weather Bureau. *Washington, D. C.*

Moses Bisbee Mann, Benton. Custom House Official. *11 Hancock St., Malden, Mass.*

George Milton Moore, Plymouth, Vt. Insurance Agent. *Ludlow, Vt.*

Ziba Amherst Norris, Lyme. Norris Bros., Groceries and Provisions, 1673-79 Washington St., Boston. *1677 Washington St., Boston, Mass.*

Edwin Chapin Thompson, Lee. Observer in charge U. S. Weather Bureau. *Sandusky, Ohio.*

8—*1

1885.

George Ellsworth Adams, Weston, Vt. Merchant. *Vernal, Utah.*
Ruel Seabury Alden, Lyme. Superintendent of College Farm, 1895-'97. Farmer. *Concord.*
Walter Eugene Angier, C. E. (Dartmouth, 1887), West Swanzey. Civil Engineer.
Edward Alonzo Bailey, West Swanzey. With George Holbrook & Co. *Keene.*
Phillips Greenleaf Bickford, Lyme.
Andrew Walter Brill, Riverhead, L. I. Seedsman and Florist. *Hampstead, Queens Co., N. Y.*
Paul Cuff Brooks, Boston, Mass.
Frank Jay Emerson, Epping. Clerk, Great Falls House. *Somersworth.*
Allen Hazen, Wilder, Vt. Consulting Engineer. *St. Paul Building, 220 Broadway, N. Y.*
George Mayo Mullens, Londonderry. Farmer. *North Londonderry.*
Albert Henry Wood. Lebanon. Associate Professor of Agriculture, 1890-94. Grain merchant. *Framingham, Mass.*

11—

1886.

Frank Albert Davis, M. D., South Lee. *41 West Newton St., Boston, Mass.*
James Ellsworth Harvey, Surry. Photographer. *Clinton, Mass.*
Belezar Stoianoff Ruevsky, Sistova, Bulgaria. Professor in State Commercial School. *Sistova, Bulgaria.*
Madison Templeton Thurber, M. D. (Dartmouth, 1890), Webster. Physician. *95 Savin Hill Avenue, Dorchester, Mass.*
Edward Hills Wason, New Boston. Lawyer. *Nashua.*
George Pillsbury Wood, Lebanon. Civil Engineer. City of Baltimore Topographical Survey. *922 Equitable Building, Baltimore, Md.*

6—

1887.

William Sprague Currier, Norwich, Vt. In charge U. S. Weather Bureau Office. *Toledo, Ohio.*
Arthur Woodbury Hardy, C. E. (Dartmouth, 1889). Hopkinton. Civil Engineer.
George Albert Sanborn, Rochester. County Agent, California Perfume Co. *Rochester.*
Hiram Newton Savage, White River Junction, Vt. Member, Am.

Soc. C. E.; Engineer-in Charge, Sweetwater Dam Irrigation and Domestic Water System; Chief Engineer, San Diego Land and Town Co.; Chief Engineer, National City and Otay Railway Co. *National City, Cal.*

Bion Leland Waldron, Strafford. Weather Bureau. *Louisville, Ky.*

5—

1888.

Melvin Burnside Carr, North Haverhill. With West End Street R. R., General Power Station. *Boston, Mass.*

Herbert Grant Davis, South Lee. Electrical Engineer, Woburn Electric Light Co. *Woburn, Mass.*

Edwin Chandler Gerrish, Webster. Assistant Paymaster for Proprietors of the Locks and Canals on the Merrimack River. *Lowell, Mass.*

William Nelson Hazen, C. E. (Dartmouth, 1890), Hartford, Vt. Designing Engineer, Berlin Iron Bridge Co. *East Berlin, Conn.*

Edward David O'Gara, Hanover. Farmer. *Hanover.*

George Elmer Porter, M. D. (Dartmouth, 1892), Hartford, Vt. Physician. *Marengo, Wayne Co., N. Y.*

George Jonathan Sargent, Canterbury. Civil Engineer. *39 No. Main St., Concord.*

John Warren Smith, Grafton. Observer U. S. Weather Bureau. *Helena, Montana.*

George Elwin Walker, Littleton. Farmer. *Littleton.*

9—

1889.

Fred Harvey Colby, Hopkinton. Fruit Grower. *Prosser, Wash.*

Linwood Carroll Gillis. Editor and Publisher, "Hanover Gazette"; Proprietor, Dartmouth Press. *Hanover.*

*Louis Jerome Hutchinson. Norwich, Vt. Electrician.

John Lawrence Norris, Lyme. Norris Bros., Groceries and Provisions, 1673-79 Washington St., Boston. *6 Worcester Sq., Boston, Mass.*

Charles Walter Earl Scott, Winchester. *Winchester.*

David Elmer Stone, Hartford, Vt. Grain merchant. *South Framingham, Mass.*

Fred Washburne, West Springfield. Foundry Dept., The Sargent Co., New Haven. *96 Chapel St., New Haven, Ct.*

7—*1

1890.

John Young Jewett, C. E. (Dartmouth, 1895), Gilford. Civil Engineer, Dam and Aqueduct Dept., Metropolitan Water Board, Boston. *11 Prescott St., Clinton, Mass.*

Joseph Franklin Preston, Hanover. Clerk. *Boston, Mass.*
Elihu Quimby Sanborn, Webster. Machinist. *Contoocook.*
Clarence Ira Slack, Norwich, Vt. With Vermont Marble Co. *West Rutland, Vt.*

4—

1891.

Ernest Gowell Cole, Hampton. Partner, J. A. Lane & Co., General Store. *Hampton.*
Russell Marden Everett, Chester. Teacher of Mathematics, Broaddus Classical and Scientific Institute. *Clarksburg, W. Va.*
Edward Payson Stone, Canaan Center. Chemist, Magnolia Plantation, Lawrence, La. *Canaan Center.*

3—

1892.

Percey Lovejoy Barker, C. E. (Dartmouth, 1894), Milford. Civil Engineer, Boston & Maine R. R. *16 Bancroft St., Worcester, Mass.*
Fred Driggs Fuller, Hanover. Assistant Chemist, New York Agricultural Experiment Station. *Geneva, N. Y.*
Arthur Bennerzett Hough, Lebanon. Farmer. *Lebanon.*
Edward Munroe Stone, C. E. (Dartmouth, 1894), Marlborough. Civil Engineer. With L. W. Burt, C. E. *39 Pearl St., Hartford, Ct.*

4—

1893.

Wilton Everett Britton, Keene. Horticulturist, Connecticut Agricultural Experiment Station. *801 Orange St., New Haven, Ct.*
Frank John Bryant, Enfield. Teacher. *Lebanon.*
Charles Elbert Hewitt, M. M. E. (Cornell, 1895), Hanover. Member of firm of Sheehan & Hewitt, Electrical Engineers. *123 Third St., Newburgh, N. Y.*
Charles Lincoln Hubbard, M. E. (1895), Fitzwilliam. Mechanical Engineer with Prof. S. H. Woodbridge, 85 Water St., Boston. *Needham, Mass.*
Orrin Moses James, Northwood. Civil Engineer. *Northwood Narrows.*
Arthur Whitmore Smith, M. S. (Wesleyan Univ., 1895), Norwich, Vt. Expert Physical Assistant in Nutrition Investigations, in the Office of Experiment Stations, in the U. S. Dept. of Agriculture. *301 College St., Middletown, Conn.*

6—

1894.

Bert Sargent Brown, Hanover. Foreman. *St. Johnsbury, Vt.*
Fred Willis Gunn, Keene. Electrician, Fall Mountain Paper Co. *Bellows Falls, Vt.*
Frederick William Howe, Hollis. Professor of Chemistry. *State Normal School, Framingham, Mass.*

3—

1895.

Frank Stanley Adams, Gilsum. *East Greenwich, R. I.*
Frank Clifton Britton, Keene. Manager of Creamery. *West Stewartstown.*
Henry Elmer Hill, Plainfield, Vt. Farmer. *Plainfield, Vt.*
Charles Arthur Trow, Mt. Vernon. 2d Regiment U. S. Volunteer Engineers.

4—

1896.

Lewis Harris Kittredge, Keene. With New York Belting and Packing Co. *Passaic, N. J.*

1—

1897.

Harlan Winifred Barney, Grafton. Farmer. *Grafton.*
Carrie Augusta Bartlett, Lee. Teacher. *Lee.*
Mary Blaisdell Bartlett, Epping. Teacher. *Epping.*
Walter French Buck, Manchester. Instructor in Business College. *Salem, Mass.*
Arthur Willard Colburn, Dracut, Mass. Farmer. *Dracut, Mass.*
Carrie Lydia Comings, Durham. Teacher. *Durham.*
Irving Lyford Dennett. Machinist. *Elkhart, Ind.*
Mrs. Irving L. Dennett (*nee* Comings). *Elkhart, Ind.*
Elwin Henry Forristall, Columbia. Assistant Agriculturist, Experiment Station. *Durham.*
Leslie David Hayes, Durham. Instructor in Manual Training. *Portland, Me.*
John Norton Hunt, Peterborough. Machinist. *Marlboro, Mass.*
Ellery Dunbar Jenkins, Lee. Chemist of Lowell Fertilizer Co. *Lowell, Mass.*
Woodruff Mason, Stamford, Ct. Medical Student, Columbia University. *New York, N. Y.*
Roscoe Hart Shaw, Milton. Student of Chemistry. *Zurich, Switzerland.*
Charles William Vickery, Dover. *Dover.*

Delbert Amos Wheeler, South Ashburnham, Mass.
Littleton Common, Mass.
Everett Sidney Whittemore, Colebrook. Business. *Clinton, Mass.*
17—

1898.

*Richard Cole Butterfield, Westmoreland.
Helen Buzzell, Lee. *Lee.*
Bernice Elizabeth Caverno, Lee. *Lee.*
Burton Albert Corbett, Colebrook. Farmer. *Colebrook.*
Alfred Caverly Durgin, Lee. *Lee.*
James Alfred Foord, Walpole. Student Cornell University.
Ithaca, N. Y.
John William Fullerton, Somersworth. *Somersworth.*
Arthur Given, Durham. Assistant Chemist, Experiment Station.
Durham.
Edward Henry Hancock, Belmont. Machinist. *Durham.*
Mabel Lucy Hayes, Durham. Teacher. *Brattleboro, Vt.*
Tomokichi Hirokawa, Iamabari, Japan. Student Mass. Institute of Technology. *Boston, Mass.*
Harry Clinton Mathes, Newmarket. Clerk. *Dover.*
Herbert Fisher Moore, Penacook. Student Cornell University.
Ithaca, N. Y.
Gerry Austin Morgan, Goffstown. *Goffstown.*
Harry Putnam Richardson, Milford. Farmer. *Milford.*
Fred Dexter Sanborn, Ashland. *Ashland.*
Fred Webster Smith, Franklin Falls. *Franklin Falls.*
Benamin D. Tolles, Somersworth. *Somersworth.*

TWO YEARS' COURSE IN AGRICULTURE.

Lyman Charles Stratton, Hollis. Farmer. *Hollis.*
Charles Welsey Martin, Durham. Student N. H. College. *Durham.*
George Henry Wheeler, Temple.

SUMMARY.

Graduates, Bachelors of Science, 1871-97 inclusive	192
Graduates, Two Years' Course	3
Agriculturists	35
Business pursuits	46
Chemists	8
Clergyman	1
Civil, Mechanical, and Electrical Engineers	15
Editor	1
Lawyers	4
Manufacturers and Mechanics	13
Physicians	13
Post-Graduate Students	6
Teachers	10
Unclassified	5
Unknown	19
Weather Bureau	7
Twice Classified	2
Dead	13

CALENDAR

1899

JANUARY.

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY.

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

MARCH.

S	M	T	W	T	F	S
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5	6	7	8	9	10	11
12	13	14	15	16	17	18
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26	27	28	29	30	31	

APRIL.

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23	24	25	26	27	28	29
30						

MAY.

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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JUNE.

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4	5	6	7	8	9	10
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18	19	20	21	22	23	24
25	26	27	28	29	30	

JULY.

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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST.

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SEPTEMBER.

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

OCTOBER.

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

NOVEMBER.

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

DECEMBER.

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

COLLEGE CALENDAR.

1898.

September 8. First term of fifteen weeks began—Thursday morning.

December 21. First term ends—Wednesday night.

Winter Vacation of Three Weeks.

1899.

January 12. Second term of ten weeks begins—Thursday morning.

March 22. Second term ends—Wednesday night.

Spring Vacation of One Week.

March 30. Third term of ten weeks begins—Thursday morning.

June 5-6. Examinations for admission—beginning Monday at 9 a. m.

June 6. Annual examinations close—Tuesday noon.

June 6. Smyth Prize Reading and Speaking—Tuesday evening.

June 7. Commencement—Wednesday.

Summer Vacation of Thirteen Weeks.

September 5-6. Examinations for admission—beginning Tuesday at 9 a. m.

September 7. First term of fifteen weeks begins—Thursday morning.

December 20. First term ends—Wednesday night.

Winter Vacation of Three Weeks.

1900.

January 11. Second term of ten weeks begins—Thursday morning.

March 21. Second term ends—Wednesday night.

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CATALOGUE

of the

NEW HAMPSHIRE COLLEGE

of

AGRICULTURE AND THE MECHANIC ARTS

1899--1900

JCZ.

THOMPSON HALL. GREENHOUSE. CONANT HALL. SHOPS.

NEW HAMPSHIRE COLLEGE.—A GENERAL VIEW.

CATALOGUE

OF THE

NEW HAMPSHIRE COLLEGE

OF

AGRICULTURE AND THE MECHANIC ARTS

1899-1900

MANCHESTER, N. H.
ARTHUR E. CLARKE, PUBLIC PRINTER.
1899.

BOARD OF TRUSTEES.

Hon. GEORGE A. WASON, New Boston, *President.*
His Excellency Gov. FRANK W. ROLLINS, *ex officio.*
Pres. CHARLES S. MURKLAND, Durham, *ex officio.*
CHARLES W. STONE, A. M., East Andover.
LUCIEN THOMPSON, Durham, *Secretary.*
Hon. JOHN G. TALLANT, Pembroke.
FREDERICK P. COMINGS, B. S., Lee.
GEORGE B. WILLIAMS, Walpole.
Hon. WARREN BROWN, Hampton Falls.
ROSECRANS W. PILLSBURY, Londonderry.
HARRY W. KEYES, A. M., Haverhill.
ROBERT M. SCAMMON, Stratham.
JAMES E. SHEPARD, New London.

Hon. WALTER M. PARKER, Manchester, *Treasurer.*

CATALOGUE.

FOUNDATION AND ENDOWMENT.

At the session of the legislature of New Hampshire in 1866, an act was passed establishing the "New Hampshire College of Agriculture and the Mechanic Arts" on the basis of the congressional land grant, and authorizing its location in Hanover and in connection with Dartmouth College.

In accordance with this act, the institution was organized under a board of trustees appointed partly by the governor and council and partly by the corporation of Dartmouth College.

The act of congress, by virtue of which it was established, provides that its "leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

An act of congress, approved August 30, 1890, provides an additional appropriation, which for the current year is twenty-five thousand dollars. This money is to be applied "to instruction in Agriculture, the Mechanic Arts, the English Language, and the various branches of Mathematical, Physical, Natural, and Economic Science, with special reference to their applications in the industries of life, and to the facilities for such instruction."

At the session of the legislature of New Hampshire in 1891, acts were passed severing the connection with Dartmouth College, removing the New Hampshire College from Hanover to Durham, accepting the Benjamin Thompson estate, and providing one hundred thousand dollars to be used with certain other sums in the erection of buildings.

The Benjamin Thompson estate was then of the value of about four hundred thousand dollars. Accumulating at four per cent compound interest, it will be available as an endowment in 1910.

At the session of the legislature of New Hampshire in 1893, an act was passed appropriating thirty-five thousand dollars for completing and furnishing the buildings. These buildings have been finished, furnished, and supplied with apparatus. The New Hampshire College has completed the sixth year of work in its new location.

The college is carrying out the provisions of the acts of congress, by giving a practical and scientific education which is of use in all the professions and industrial pursuits, by means of the following courses of study:

1. Courses in Agriculture:
    - A. Four Years' Course.
    - B. Two Years' Course.
    - C. Ten Weeks' Winter Course.
    - D. Ten Weeks' Dairy Course.
2. Courses in the Mechanic Arts:
    - A. Mechanical Engineering Course.
    - B. Electrical Engineering Course.
    - C. Technical Chemistry Course.
3. General Course.
4. Preparatory Course.

FACULTY.

CHARLES S. MURKLAND, A. M., Ph. D., *President and Professor of English Language and Literature.*

CHARLES H. PETTEE, A. M., C. E., *Dean and Professor of Mathematics and Civil Engineering.*

CLARENCE W. SCOTT, A. M., *Professor of History and Political Economy.*

FRED W. MORSE, B. S., *Professor of Organic Chemistry.*

CHARLES L. PARSONS, B. S., *Professor of General and Analytical Chemistry.*

CLARENCE M. WEED, D. Sc., *Professor of Zoölogy and Entomology.*

FRANK WILLIAM RANE, B. Ag., M. S., *Professor of Horticulture.*

CHARLES W. BURKETT, M. S., *Professor of Agriculture.*

CARLETON A. READ, B. S., *Professor of Mechanical Engineering.*

VICTOR E. STOTTLER, Captain, U. S. Army, Retired, *Professor of Military Science and Tactics.*

HERBERT H. LAMSON, M. D., *Associate Professor of Botany.*

ARTHUR F. NESBIT, A. M., B. S., *Associate Professor of Physics and Electrical Engineering.*

JOSEPH H. HAWES, *Associate Professor of Drawing.*

RICHARD WHORISKEY, Jr., A. B., *Assistant Professor of Modern Languages.*

ELLIS W. LAZELL, Ph. D., *Assistant Professor of Chemistry and Mineralogy.*

FREDERIC S. JOHNSTON, B. S., *Assistant Professor of Agriculture.*

JOHN N. BROWN, *Instructor in Machine Work.*

OSCAR E. HERRING,* *Instructor in Wood Work.*
IRVING A. COLBY,† B. S., *Instructor in Wood Work.*
CHARLES H. WATERHOUSE, *Instructor in Dairying.*
CLARENCE W. WAID, B. S., *Assistant in Horticulture.*
HARRY P. RICHARDSON, B. S., *Assistant in Agriculture.*
EDWARD E. RUSSELL, *Engineer and Curator of Buildings.*
FREDERICK C. KEITH, *Purchasing Agent.*

* Resigned November 18, 1899.
† Beginning November 20, 1899.

STUDENTS.

a — Agricultural Course; *c* — Course in Technical Chemistry; *e-e* — Electrical Engineering Course; *g* — General Course; *m-e* — Mechanical Engineering Course. Sophomores and Juniors in the Engineering Courses are designated by *e* only. Freshmen are not classified in courses.

POST GRADUATES.

Name.	Residence	Subject.
Buzzell, Helen, B. S.	*Lee.*	Biology.
Dearborn, Ned, M. S.	*Tilton.*	Biology.
Forristall, Elwin H., B. S.	*Boston, Mass.*	Agriculture.

SENIORS.

Name.	Residence.	Room.
Andrews, Herbert Prescott *e* *	*Hollis.*	Thompson Hall.
Bartlett, David Burns *g* *	*Manchester.*	Durham Club.
Burnham, Frances *g*	*Durham.*	Mr. Burnham's.
Foye, Blanche Mary *g*	*Durham.*	Mr. A. Meserve's.
Mathes, Chas. Elliot Page *g* *	*Durham.*	Mr. Mark Mathes's.
Nelson, Edward Emil *e* *	*Nashua.*	Mr. A. Meserve's.
Pettee, Alvena *g*	*Durham.*	Prof. Pettee's.
Robertson, Marie Livingstone *g*	*Buffalo, N. Y.*	Prof. Parson's
Shipley, Walter Noah *e* *	*Nashua.*	The Nashuway.
Stillings, Charles Edwin *e* *	*Somersworth.*	Mr. Sawyer's.
Wilson, John Ernest *e* *	*Hollis.*	Mr. A. Meserve's.
Wright, Robert Morrill *g* *	*Hill.*	Q. T. V. Hall.

JUNIORS.

Calderwood, Henry Harold *e*	*Nashua.*	The Nashuway.
Courser, Charles Henry *e*	*Warner.*	The Nashuway.
Dorr, Alice Emerson *g* *	*Dover.*	Dover.
Evans, Harry Willis *e*	*Portsmouth.*	Mrs. Mathes's.
Farwell, Harry Gilbert *e*	*Keene.*	Mr. A. Meserve's.
Gowen, Ella Gertrude *g* *	*Dover.*	Dover.
Hunt, Charles Lund *c*	*Nashua.*	The Nashuway.
Jewett, Edwin Price *a*	*Lakeport.*	Nesmith Hall.
Keown, Robert McArdle *e*	*Pomona, Fla.*	Thompson Hall.

* Partial course.

Name.	Residence.	Room.
Lyon, Elmer Eugene *g*	*Wentworth.*	The Nashuway.
Penneo, George Jay *a*	*Hampstead.*	Mr. Caverno's.
Roberts, John Harry *g* *	*Rollinsford.*	Mrs. Davis's.
Rollins, Norman Allen *c*	*Concord.*	Q. T. V. Hall.
Runlett, Harold Morrison *g*	*Durham.*	Mr. Runlett's.
Straw, Edson Albert *a*	*Pittsfield.*	Mr. Caverno's.

SOPHOMORES.

Buzzell, Maurice Tuttle *c* *	*Lee.*	Mr. James Buzzell's.
Church, John Edwin *c*	*Berwick, Me.*	Mr. Runlett's.
Gilmartin, Edwin W. *e*	*Nashua.*	The Nashuway.
Kendall, John Chester *a*	*Peterborough.*	Durham Club.
Lee, Harry Moulton *a*	*Moultonborough.*	Q. T. V. Hall.
Lewis, Rutherford Burchard *c*	*New York, N. Y.*	Mr. A. Meserve's.
Livermore, Abiel Abbott *a*	*Wilton.*	The Nashuway.
Merrill, George Enoch *a*	*Hampton Falls.*	Q. T. V. Hall.
Parker, Gerry Flint *e*	*Litchfield.*	The Nashuway.
Payne, Charles Albert *c*	*Portsmouth.*	The Nashuway.
Runlett, Eugene Pierce *a*	*Durham.*	Mr. Runlett's.
Sargent, Carl Linwood	*Penacook.*	Nesmith Hall.
Sullivan, Arthur Lyon *a*	*Suncook.*	Mrs. Davis's.
Watson, Ethel Campbell *g*	*Durham.*	Mr. Watson's.

FRESHMEN.

Batchelor, Harry David	*West Upton, Mass.*	Dr. Grant's.
Brown, Frank Ray	*Durham.*	Mr. Brown's.
Bickford, Edgar Forrest	*Rochester.*	Q. T. V. Hall.
Burbeck, Everett William	*Haverhill.*	The Nashuway.
Cilley, Joseph	*Nottingham.*	Prof. Rane's.
Conner, Alfred	*Newfields.*	Whitcher's Block.
Clark, Wilfrid Laforest	*Newmarket.*	Newmarket.
Cushman, Robert Asa	*Worcester, Mass.*	The Nashuway.
Davis, Everett Garfield	*Newmarket.*	Newmarket.
Doe, Mary	*Salmon Falls.*	Salmon Falls.
Gray, George William	*Dover.*	Whitcher's Block.
Grover, Fred Howard	*Portsmouth.*	Mr. A. Meserve's.
Hadley, Frank Lurling	*Durham.*	Mrs. Hadley's.
Hancock, Albert William	*Suncook.*	Mrs. Davis's.
Hatch, Fred Marshall	*Wilton.*	Q. T. V. Hall.
Hill, Frank Lester	*Amherst.*	Q. T. V. Hall.
Metz, Walter Charles	*Newark, Ohio.*	Durham Club.
Otis, Albert Noah	*Durham.*	Mr. Stevens's.
Patten, Lewis Carroll	*Candia.*	Candia.

* Partial course.

Name.	Residence.	Room.
Pierce, Will Stevens	*Somersworth.*	Mr. Hayes's.
Rollins, Ralph Harvey	*Concord.*	Q. T. V. Hall.
Snell, Elizabeth Gertrude	*Lee.*	Mr. H. B. Snell's.
Stewart, Morris Archer	*Dover.*	Mr. Jenkins's.
Tasker, Frederick Alerande	*Intervale.*	Q. T. V. Hall.
Towle, John Moulton	*Newmarket.*	Newmarket.
Watson, David Albert	*Durham.*	Mr. Watson's.
Wells, Charles Albert	*Haverhill, Mass.*	Haverhill.
White, Melvin Johnson	*Farmington.*	Q. T. V. Hall.
Whidden, Ernest Cooper	*Dover.*	Mr. A. Meserve's.
Wiggin, Howard Moody	*Stratham.*	
Wilkins, George C.	*Peterborough.*	Q. T. V. Hall.

PREPARATORY COURSE.

Chapman, Gilman D.	*Newmarket.*	Newmarket.
Comeau, Alphy Joseph	*Durham.*	Mrs. Wiggin's.
Dearborn, Jenness Stevens	*Suncook.*	Mrs. Davis's.
Estrada, Benito Rodriguez	*Puerto Principe, Cuba.*	Mr.Meserve's.
Keith, Leon Eames	*Brooklyn, N. Y.*	Mr. Keith's.
Marsh, Frank Enoch	*Pelham.*	Mrs. Cook's.
Marsh, Levi Joseph	*Pelham.*	Mrs. Cook's.
Merifield, Charles Henry	*Charlestown.*	Mr. Caverno's.
Morel, Cirilio Rodriguez	*Puerto Principe, Cuba.*	Mr.Meserve's.
Proctor, George Sylvester	*Wilton.*	Q. T. V. Hall.
Rochemont, Percy Ellis de	*Newington.*	Dr. Grant's.
Swett, Nella Verna	*Deerfield.*	Prof. Pettee's.
Waterhouse, Fred Joseph	*Barrington.*	Mr. Waterhouse's.
Wentworth, Edward Tubbs	*Emery Mills, Me.*	Dr. Grant's.
Wheeler, Herman †	*Temple.*	

TWO YEAR COURSE.

SECOND YEAR.

Durell, Fred Joseph	*Newmarket.*	Newmarket.
Elliot, Harry Alvin	*Lyme.*	Mrs. Hadley's.
Hills, Edward Augustus	*Hollis.*	Mr. A. Meserve's.
Knowles, Albert Cate	*Epsom.*	Mrs. Davis's.
Pearson, Robert Hale	*Webster.*	Mr. A. Meserve's.

FIRST YEAR.

Blodgett, Charles Nicklin	*Hebron.*	Mrs. Hadley's.
Blodgett, Joseph French	*Hebron.*	Mrs. Hadley's.

† Died September 21, 1899.

Name.	Residence.	Room.
Blood, Fred Albert	*Somersworth.*	
Covell, Lee Robert	*Colebrook.*	Prof. Parson's.
Folsom, William Charles	*Newmarket.*	Newmarket.
Hall, Erie Earle	*East Barrington.*	Mr. Waterhouse's.
Hilton, Richard Sylvester	*Newmarket.*	
Mulvanity, Thomas William	*Nashua.*	
Rand, Edward Sidney	*North Chichester.*	Q. T. V. Hall.
Sanborn, John Freeman	*Newmarket.*	Mrs. Davis's.
Stone, Hayes Wilson	*Claremont.*	Mr. Caverno's.
Thompson, Lewis Raymond	*Lee.*	
Verder, Harry Douglass	*Hollis.*	Mr. A. Meserve's.

WINTER AND DAIRY COURSE.

Conner, Charles	*Durham.*
Conner, Fred T.	*Henniker.*
Gibson, A. W.	*Rindge.*
Locke, Leslie B.	*Hollis.*
Messer, Elroy A.	*Claremont.*
Parker, Leander Fox	*North Woodstock.*
Pearson, Bernard Bailey	*Shoreham, Vt.*
Ramsdell, Robert William	*Meriden.*
Stevens, David Albert	*Durham.*
Stowell, George Abner	*Claremont.*
Tenney, Walter Phelps	*Chester.*
Thompson, Luther Oroford	*Franklin.*
Watts, Paul Merrill	*Franklin.*
Wilcox, Fred	*Oxford.*
Westgate, Earl	*Claremont.*

SPECIAL COURSE.

Name.	Residence.	Subject.
Barker, Willie Lincoln	*Stratham.*	Agriculture.
Bassett, Nellie	*Durham.*	Drawing.
Bell, Sadie E.	*Durham.*	Biology.
Fiske, William F.	*Mast Yard.*	Biology.
Hadley, Nellie G.	*Durham.*	Drawing.
Harvey, Anna M.	*Newmarket.*	Biology.
Nesbit, William Harold	*Milton, Pa.*	Shopwork.
Pratt, Walter D.	*Boston, Mass.*	Chemistry, German.
Smith, Lilian Ruth	*Newmarket.*	Biology.
Waldron, William Size	*Portsmouth.*	Shopwork.
Young, Jennie M.	*Newmarket.*	Biology.

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ADMISSION.

All candidates for admission to college must present satisfactory testimonials of good moral character.

Candidates for the Freshman class are examined in the following subjects:

I. Arithmetic, including the metric system.

II. Algebra through quadratic equations, including radicals, and fractional and negative exponents.

III. Plane Geometry.

IV. Physics.—Gage's Introduction to Physical Science, or Dolbear's Natural Philosophy, or an equivalent.

V. Botany.—Gray's Lessons, sections 1 to 15 (inclusive), and sections 18 and 19, or an equivalent, with some knowledge of classification, and experience in the analysis of our common flowering plants.

VI. Physical Geography.

VII. History of the United States.—Fiske's, or Johnston's, or an equivalent.

VIII. History of Greece.—Myers's larger work, or an equivalent.

IX. History of Rome.—Allen's Roman People, or an equivalent.

X. French.—Grammar: Translation of easy prose at sight.

XI. English.—Two sets of books are prescribed for preparation in English, one for reading, the other for more careful study. No candidate will be admitted whose work is notably defective in points of spelling, punctuation, idiom, or division into paragraphs. The examinations will consist of two parts:

1. Reading.—A certain number of books will be set for reading. The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. The form of examination will usually be the writing of a paragraph or two on each of several topics to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the book. In preparation for this part of the requirement it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

The books set for this part of the examination will be:

In 1900, Dryden's Palamon and Arcite; Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in "The Spectator"; Goldsmith's Vicar of Wakefield; De Quincey's Flight of a Tartar Tribe; Tennyson's Princess; Scott's Ivanhoe; Cooper's Last of the Mohicans; Lowell's Vision of Sir Launfal.

In 1901-1902, Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in "The Spectator"; Goldsmith's Vicar of Wakefield; Tennyson's Princess; Scott's Ivanhoe; Cooper's Last of the Mohicans; George Eliot's Silas Marner; Coleridge's Rime of the Ancient Mariner; Shakespeare's Merchant of Venice.

In 1903-1905, The Sir Roger de Coverley Papers in "The Spectator"; Goldsmith's Vicar of Wakefield; Tennyson's Princess; Scott's Ivanhoe; George Eliot's Silas Marner; Coleridge's Rime of the Ancient Mariner; Shakespeare's Merchant of Venice and Julius Cæsar; Carlyle's Essay on Burns; Lowell's Vision of Sir Launfal.

2. Study and Practice.—This part of the examination presupposes the thorough study of each of the works named in this division. In addition the candidate may be required to answer questions involving the essentials of English gram-

mar and composition. Inability to answer such questions will be considered a sufficient ground for refusing admission.

The books set for this part of the examination will be:

In 1900, Shakespeare's Macbeth; Milton's Paradise Lost, Books I and II; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

In 1901-1905, Shakespeare's Macbeth; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison; Milton's L'Allegro, Il Penseroso, Lycidas, and Comus.

Candidates for admission to the Preparatory class are examined in Arithmetic, including the metric system; Algebra to quadratics, not including radicals; English Grammar and Composition; Physical Geography, and the History of the United States.

Admission will be refused to candidates failing in English, or showing marked deficiencies in spelling and punctuation.

Candidates for admission to the Two Years' Course in Agriculture are examined in Arithmetic, English Grammar (including spelling and writing), and the Geography and History of the United States.

Candidates for advanced standing are also examined in the studies that have been pursued by the class which they propose to enter.

A certificate from an academy or a high school will be accepted in place of an examination, upon any subject required for admission. Every certificate must state the amount of work done by the student, his proficiency, and the textbooks used; and in case it is not evident that the student is thoroughly prepared, an examination will be required.

Certificate forms will be furnished on application.

The times for examination are the Monday and Tuesday before Commencement, and the Tuesday and Wednesday before the beginning of the first term. Candidates will first present themselves with their credentials on the first day of the examination. See Calendar.

DESCRIPTION OF STUDIES.

For the Courses of Study see page 35 et seq.

AGRICULTURE.

1. Elementary Agriculture. *Sixty exercises.*

Lectures, recitations, and practical exercises on the fundamental principles of general agriculture. This course forms the foundation for the courses that follow it. (Short course in agriculture.)

2. Dairying. *Forty-five exercises.*

Practice and occasional lectures. The course consists in the general management of modern dairying, the methods of milk analysis, the bacteriology of milk, the use of separators, the making of butter, and preparation of milk for the city market. (Short course in agriculture.)

3. Breeds and Breeding. *Forty exercises.*

Lectures, recitations, and practical work. An elementary course on the practical applications of the laws of inheritance, including the scoring, judging, and studying of breeds of live stock. (Short course in agriculture.)

4. Farm Equipment. *Forty-five exercises.*

Lectures and recitations upon selecting, planning, and equipping farms; planning and erecting farm buildings; farm vehicles and machinery; power, water, and drainage; practical exercises in drawing plans of farms and farm buildings; leveling and laying drains; dynamometer tests of wagons and farm implements, etc.

5. Soils and Fertilizers. *Forty exercises.*

Lectures, recitations upon the origin, formation, kinds, and physical properties of soils and their improvement by cultivation, natural and artificial fertilizers, drainage and irrigation. Practical exercises in testing physical properties of several soils, determining the relation of soils to heat, moisture, air, and fertilizers, and making mechanical analysis.

6. Stock Feeding and Hygiene. *Forty exercises.*

Lectures and recitations upon the laws of nutrition, the character of food stuffs, the relation of foods to animals, and the kind and quality of foods to produce certain results. Practical exercises in calculating digestibility, nutritive ratios, and feeding standards.

7. Farm Crops. *Thirty exercises.*

Lectures and recitations upon the history, production, marketing, and harvesting of farm crops. Practical exercises with growing and dried specimens of farm crops, including grasses, clovers, and other forage crops.

8. Agricultural Seminary. *Thirty exercises.*

This course consists of the study of current agricultural literature. Each student will prepare abstracts, reports, or essays upon assigned articles, books, bulletins, and various agricultural problems.

9. Breeds of Live Stock. *Forty-five exercises.*

Lectures and recitations upon the history, characteristics, care, adaptation, and management of the different breeds of live stock. Practical exercises are given in scoring and judging the various kinds of live stock with use of the score card.

10. Dairying. *Thirty exercises.*

Practical exercises in running the separator, churning, and making butter, and testing, pasteurizing, and analyzing milk.

11. Principles of Breeding. *Thirty exercises.*

Lectures and recitations upon the laws of inheritance and their practical application.

Practical exercises in scoring and judging live stock, and in writing and tracing pedigrees.

12. History of Agriculture and Rural Economics.

Twenty exercises.

Lectures upon the history of agriculture; present agricultural methods in various countries; cost and relative profits of various farm operations and systems.

BOTANY.

1. Structural Botany. *Thirty exercises.*

Lectures and laboratory work on the minute structure and physiology of plants, with special reference to the higher forms.

Open only to those who have taken the preparatory Botany or its equivalent.

2. Plant Diseases. *Twenty exercises.*

A study by means of lectures and laboratory work of some of the more important fungous diseases of cultivated plants, and the means of preventing their injuries.

Open only to students who have completed Botany 1.

3. Advanced Course.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

Open only to those who have shown special proficiency in Botany.

CHEMISTRY.

1. Inorganic Chemistry. *Forty-five exercises.*

Lectures and recitations on general theoretical chemistry, illustrated by experiments, charts, specimens, lantern views, etc. Solutions of chemical problems will be required.

2. Inorganic Chemistry. *Thirty exercises.*

Course 2 is a continuation of Course 1, but the time will be spent mainly on the metallic elements, their metallurgy, salts, etc.

Open only to students who have completed Course 1.

3. Organic Chemistry. *Twenty exercises.*

Course 3 will consist of lectures and recitations on the chemistry of the carbon compounds, together with the study of their properties by means of specimens.

Open only to students who have completed Courses 1 and 2.

4. Qualitative Chemical Analysis.

Course 4 consists of laboratory practice, with occasional lectures. The student is expected to become proficient in the separation and detection of the common acids and bases, and to keep a full set of notes. He will have practice in the writing of reactions, and will fill out numerous slips containing questions bearing upon his work.

Open only to students who have completed Courses 1 and 2.

5. *a.* Chemistry of Plant Growth. *Forty-five exercises.*

The composition of plants at different stages of growth, and the conditions necessary for their development. This subject must be preceded by Chemistry Courses 1, 2, and 3.

b. Food and Nutrition. *Twenty exercises.*

These subjects include the composition of foods, and the animal body; the assimilation of the former by the latter, and the principles underlying a rational diet. This subject should be preceded by Course 5 *a*.

6. Applied or Industrial Chemistry.

a. Twenty exercises. *b. Twenty exercises.*

Course 6 consists of lectures on chemical manufactures, such as iron, steel, sugar, sodium carbonate, fertilizers, sulphuric acid, glass, matches, paints, dyes, soaps, illuminating gas, petroleum, etc. The lectures will be illustrated by lantern views; and trips to the leading New England cities, to examine important chemical manufactures, will be taken as far as practicable.

Open only to those who have completed Courses 1, 2, 3, 4.

7. Advanced Quantitative Analysis.

Course 7 extends through the year, and is intended to fit the student for work in the laboratories of agricultural experiment stations, fertilizer works, iron-works, sugar refineries, etc., and for the duties of the public analyst. This course will be made to fit the end which each has in view, and will be largely an individual one. For those students in the Chemical Division of the Agricultural Course the analyses made will tend in the main toward agricultural products, fertilizers, mucks, marls, manures, dairy products, waters, food-stuffs, sugars, etc. For the student wishing to enter metallurgical works, the analyses will be in the main upon iron, steel, and other metals, ores, limestone, slags, alloys, fuels, etc. As a preparation for the study of medicine, work will be done on poisons, foods, drugs, urine, etc. Other lines will be arranged to meet the wants of the individual student. Each student will be given some practice in all of the branches of agricultural, metallurgical, medical, sanitary, and industrial chemistry, in order to lay a foundation for any future work which may be required of him. A short course in gas analysis will also be provided. A portion of the time of the last two terms is given to work bearing upon the preparation of a graduating thesis.

Open to students who have completed Course 4.

8. Organic Chemistry. *Thirty exercises.*

Course 8, for students in the Chemical Division of the Agricultural Course, and in the Technical Chemistry Course, consists of laboratory practice by the students in preparing and purifying products relating to their respective lines of work.

Open to those who have completed Course 3.

9. Chemical Journals, Methods, etc. *Thirty-five exercises.*

The work consists of the study of current chemical literature, which is mainly in the German language, with recitations once a week throughout the year. Each student will be expected to prepare abstracts, reports, criticisms, etc., upon assigned articles.

Open to students taking Course 7.

10. Chemical Philosophy. Lectures and Recitations.

a. Twenty exercises. *b. Twenty exercises.*

The work consists of advanced study of chemical theory. Practical experiments will be performed, with the aid of the student, in the determination of vapor density, molecular weights, specific heat, etc.; and the study of isomorphism, diffusion of gases, solutions, molecular and atomic volume, the chemistry of space, etc., will take up much of the time.

Course 10 comes in alternate years with Course 6, and is open to students who have completed Courses 1, 2, and 3.

DRAWING.

Two and one half hours' work is reckoned as one exercise.

1. Freehand and Instrumental Drawing.

a. Thirty exercises. *b. Twenty exercises.*

Course for women.

c. Seventy-five exercises. *d. Fifty exercises.*

Freehand drawing in outline and in light and shade, from geometric models, common objects, and casts of historic ornament. Machine sketching and the use of instruments.

2. Freehand and Instrumental Drawing.

a. Twenty exercises. *b. Thirty exercises.*

Light and shade drawing from the cast and from still life; pencil sketching; design; details of building construction; projection drawing.

3. Descriptive Geometry and Drawing.

a. Thirty exercises. b. Twenty exercises. c. Thirty exercises.

Recitations and drawing exercises in the solution of problems in plane and solid geometry, by means of orthographic projections.

d. Twenty exercises.

Recitations on shades and shadows and perspective, with exercises in perspective drawing and line shading.

Course 3 is open only to those who have taken Mathematics 2.

4. Mechanical Drawing.

a. Twenty exercises. b. Thirty exercises.

Exercises in making dimension drawings for the use of workmen; tracing and blue-printing.

5. Freehand and Instrumental Drawing.

a. Forty-five exercises. b. Fifty exercises. c. Thirty exercises.

Study of architectural detail; design; use of color; pencil sketching; perspective; historic ornament.

6. Drawing and History of Painting.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

This course includes the drawing of antique figure from casts, pencil sketching, charcoal drawing, use of water colors, and the study of the history of painting.

ENGINEERING.

1. Surveying. *Fifty exercises.*

Recitations, field-work, and plotting, including compass, transit, plane-table, and level work.

2. Mechanism. *Forty-five exercises.*

Recitations, and exercises in drawing outlines of elementary combinations of parts of machines, with special reference to the relative motion of the parts, their forms and modes of connection.

Course 2 is open only to those who have taken Drawing 3.

3. Mechanics of Engineering.

a. Thirty exercises. b. Fifty exercises. c. Fifty exercises.

Courses 3 a and 3 b are devoted to recitations in Statics and Dynamics; Course 3 c to Mechanics of Materials.

Course 3 is open only to those who have taken Mathematics 1 to 5, inclusive.

4 Materials of Construction. *Sixty exercises.*

Recitations on the production, properties, uses, and preservation of engineering materials.

Course 4 is open only to those who have taken Course 3 c and Chemistry 2.

5. Steam Engineering.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

Recitations and Lectures on Thermodynamics, Boilers, and Valve Gears.

Course 5 is open only to those who have taken Courses 3 a, 3 b, and Physics 1 and 2.

6. Hydraulics. *Forty-five exercises.*

Course 6 is open only to those who have taken Course 5.

7. Dynamos and Electro-motors.

a. Forty-five exercises. b. Forty exercises. c. Forty exercises.

Lectures and quizzes on the construction and theory of dynamos and electro-motors, direct current and alternating.

Course 7 is open only to those who have taken Physics 1 to 4 and Mathematics 1 to 5.

8. Mechanical Laboratory.

a. Thirty exercises. b. Thirty exercises. c. Twenty exercises.

Tests of materials, boilers, engines, pumps, indicators, etc.

Course 8 is open only to those who have taken Courses 1 to 5.

9. Machine Design. *Forty exercises.*

Course 9 is open only to those who have taken Courses 3 and 4.

10. Mechanical Engineering.

a. Multiple Expansion Engines. *Thirty exercises.*

b. Gas and Hot Air Engines and Refrigerating Machinery. *Thirty exercises.*

11. Roads, Streets, and Pavements. *Thirty exercises.*

Recitations and lectures on construction and maintenance of paved, macadamized, and gravel roads, with discussion of laws relating thereto.

12. Electrical Engineering.

a. Forty-five exercises. b. Thirty exercises. c. Forty exercises.

A careful study is made of the principles and methods employed in telegraphy, telephony, and electric signalling; the transmission of electric energy for lighting and power purposes, by direct current, single phase, and multi-phase systems; the electric railway, its installation and operation and the practical management of dynamos and motors.

In connection with this Course it is intended to make excursions to representative stations and plants, as a supplement to the class room work.

Course 12 is open to those who have passed in Course 7.

ENGLISH.

1. Rhetoric.

a. Thirty exercises. b. Twenty exercises. c. Twenty exercises.

2. Three Themes. *One each term.*

Required of all students registered in the Sophomore class.

3. Three Original Declamations. *One each term.*

Required of all students registered in the Junior class.

4. Three Original Declamations. *One each term.*

Required of all students registered in the Senior class.

5. Early English. *Forty-five exercises.*

Study of authors.

6. Elizabethan Writers. *Twenty exercises.*

Study of authors.

7. Writers of the Restoration and the French Influence. *Twenty exercises.*

8. Victorian Writers. *Forty-five exercises.*

9. English Romance. *Twenty exercises.*

10. American Literature. *Fifty exercises.*

Lectures and study of authors.

11. Study of Words. *Twenty exercises.*

12. Advanced Rhetoric. *Twenty exercises.*

FRENCH.

1. Writers of the Nineteenth Century. *Forty-five exercises.*

Sketches from travelers; sight translations. Feuillet, Mérimée, Dumas.

2. The Modern Drama. *Thirty exercises.*

French composition and grammar. Selections from Scribe, Victor Hugo, Sandeau; the text will be made the basis of exercises in conversation.

3. French History and Popular Science. *Thirty exercises.*

The aim is to increase the student's vocabulary of practical, if not strictly scientific, subjects.

4. Systematic Vocabularies. *Forty-five exercises.*

The French verb; modern writers. Words will be studied in classes, and the common expressions of everyday life made familiar.

5. Idiomatic French. *Thirty exercises.*

Eighteenth Century writers, with French and English exercises on as large a number of idioms as time permits.

6. La Fontaine, Racine, Molière. *Thirty exercises.*

Translations in class supplemented by outside reading, on which the student will be examined.

GEOLOGY.

1. Elementary Geology. *Thirty exercises.*

2. Mineralogy. *Thirty exercises.*

A short course in blowpipe analysis, followed by laboratory practice in the determination and study of minerals, with special reference to their economic value.

Course 2 is open only to students who have taken Chemistry 1 and 2.

GERMAN.

1. German Grammar. *Forty-five exercises.*

Declension of nouns and adjectives; regular and irregular verbs; oral drill; written exercises.

2. Readings for Beginners. *Thirty exercises.*

German composition; critical study of verbs. Carefully graded selections of such a character as gradually to meet and master the difficulties of German Syntax.

3. German Prose of the Nineteenth Century. *Thirty exercises.*

Conversation. Variety of vocabulary, and the mastery of the more common idioms, will be the aim of this Course.

4. German Prose of the Nineteenth Century, Continued. *Forty-five exercises.*

Grammar and composition. Review of the verb; selections from German newspapers. More difficult selections; sight translations.

5. German Plays, History, and Travel. *Thirty exercises.*

Conversational style adapted to oral drill in class. Selections from a large number of modern writers.

6. Scientific German. *Thirty exercises.*

The purpose of the Course is to familiarize the student with the vocabulary of scientific investigation.

7. German Prose Composition. *Forty-five exercises.*

The work of some German author will be translated with the view of using the text as the basis for exercises in German prose composition. History of the literature.

8. Systematic Vocabularies. *Thirty exercises.*

A drill on the words and expressions of most frequent recurrence. Conversation continued.

9. Masterpieces of German Literature in connection with historical references. *Thirty exercises.*

Lessing, Goethe, Schiller.

The aim throughout the courses in French and German will be the discipline derived from their study and to make these languages thoroughly practical.

HISTORY.

In the courses in history an important place is given to historical reading carried on in the reference room. In some cases a considerable part of the work is written. Special attention is paid to the development of arts and institutions.

1. Mediæval and Modern History to the beginning of the Seventeenth Century. *Sixty exercises.*

2. Modern History from the beginning of the Seventeenth Century to the French Revolution. *Thirty exercises.*

3. European Political History since the beginning of the French Revolution. *Thirty exercises.*

4. American History to 1825. *Sixty exercises.*

5. American Political History since 1825. *Thirty exercises.*

HORTICULTURE.

1. Principles of Plant Growth. *Sixty exercises.*

This course is elementary and points out the fundamentals of horticulture. (Short course in agriculture.)

2. Elementary Horticulture. *Fifty exercises.*

Lectures and practice in laboratory, greenhouse, orchard, and ornamental grounds. A study of preparation of soil, drainage, and irrigation, fertilizers, tools, implements, and buildings. Propagation, multiplication, germination, transplanting, budding, grafting, and pollinating. (Short course in agriculture.)

3. Olericulture and Seed Growing. *Forty-five exercises.*

Lectures and recitations. References: Green's Vegetable Gardening, Henderson's Gardening for Profit, Brill's Seed Growing, and various special pamphlets.

Open only to those having completed Botany 1.

4. Arboriculture and Forestry. *Twenty exercises.*

The use of trees for shelter, shade, and ornament, and their propagation. Value of trees for timber. How to improve existing woodlands. Influence of forests upon soils, crops, and climate. Establishment and management of plantations of forest trees.

5. Winter Gardening. *Twenty exercises.*

The construction and management of greenhouses; crops of the vegetable forcing-house. References: Bailey's Forcing Crops; Taft's Greenhouse Construction.

6. Pomology and Viticulture. *Forty-five exercises.*

References: Downing's Fruit and Fruit Trees of America, Thomas's American Fruit Culturist, Barry's Fruit Garden, Fuller's Small Fruit Culturist.

Open only to those having completed Botany 2 and Zoölogy 3.

7. Horticultural Seminary. *Twenty exercises.*

Discussion of current literature; experiment station bulletins, and a study of various horticultural problems.

8. Horticultural Seminary. *Twenty exercises.*

A continuation of Course 6, together with practice in journalism.

9. Landscape Gardening and Floriculture. *Twenty exercises.*

The principles of æsthetics as applied to natural scenery; the adornment of home grounds, including management of house plants, climbing vines, and flowering bulbs.

MATHEMATICS.

1. Algebra completed. *Fifty exercises.*

2. Solid Geometry, with advanced course. *Fifty exercises.*

3. Plane and Spherical Trigonometry. *Fifty exercises.*

4. Analytic Geometry. *Seventy-five exercises.*

5. (*a*) Differential Calculus, (*b*) Integral Calculus. *One hundred exercises.*

6. Astronomy. *Forty exercises.*

7. Differential Equations. *Thirty exercises.*

8. Quaternions. *Twenty exercises.*

METEOROLOGY.

1. Meteorology. *Thirty exercises.*

Recitations and lectures on wind systems, precipitation, humidity, laws of storms and tornadoes, and methods of prediction of atmospheric changes.

MILITARY SCIENCE AND TACTICS.

1. Military Drill.

Practical instruction in drill and gymnastic exercises.
Four exercises per week throughout the course.

2. Military Tactics.

Theoretical instruction in drill regulations and the elementary principles of military science.
One exercise per week throughout the Freshman, Sophomore, and Junior years.

PHILOSOPHY.

1. Logic. *Thirty exercises.*

Lectures and recitations.

2. Psychology. *Forty-five exercises.*

Open only to students who have obtained a high average in Course 1.

3. Ethics. *Thirty exercises.*

Lectures and recitations.

Open only to students who have obtained a high average in Courses 1 and 2.

4. Elements of Philosophy. *Fifty exercises.*

Open only to students who have obtained a high average in Courses 1 and 2.

5. History of Philosophy. *Forty exercises.*

Open only to students who have obtained a high average in Courses 1, 2, 3, and 4.

PHYSICS.

1. Mechanics. *Thirty exercises.*

2. (*a*) Heat, (*b*) Light. *Forty-five exercises.*

3. Sound. *Twenty exercises.*

4. Electricity and Magnetism. *Forty exercises.*

Courses 1, 2, 3, and 4 are a general introduction to the subject. The instruction is given by recitations and lectures, the latter being illustrated by experiments and stereopticon. Notes on lectures and experiments are submitted by each student.

5. Elements of Least Squares and the Precision of Measurements.

Forty-five exercises.

6. Physical Laboratory.

a. Thirty exercises. *b. Thirty exercises.*

The work consists in the experimental verification of the laws of physics and the determination of physical constants, a few of the investigations being the following: the analytical balance, the law of the pendulum, harmonic motions of translation and rotation, specific heats, latent heats, expansion of gases, law of lenses, candle power of lights, velocities of sound in air and metals, the intensity of the earth's magnetism, the resistance of wires and voltaic cells, the e. m. f. of batteries, etc.

Courses 5 and 6 are taken consecutively and are open only to those who have passed in Courses 1, 2, 3, and 4. Students in Engineering must also have passed in Mathematics 1 to 5, inclusive.

7. Theoretical Electricity.

a. Forty-five exercises. *b. Sixty exercises.*

The first part of the course includes the subjects of electrostatics, magnetism, and electro-dynamics as treated mathematically, and the latter part to the study of electrical measuring instruments and methods.

Course 8 is open only to those who have passed in Courses 1 to 6.

8. Electrical Measurements. *Thirty exercises.*

The work will include the study of the principles and methods employed in electrical measurements,—such as resistance of wires and batteries, e. m. f. of batteries, current measurement by ammeter and electrolysis, use of the voltmeter, etc.

9. Electrical Laboratory.

a. Twenty exercises. *b. Twenty exercises.*

This work consists of the various uses of the Wheatstone Bridge; the calibration of galvanometers, ammeters, etc.; the measurement of high resistances, capacities, and inductances; the determination of the candle power of incandescent and arc lamps; the study of direct and alternating current dynamos and motors; the efficiencies of a transformer under different loads; power measurements by watt-meter, etc.

Course 9 is open only to those who have passed in Physics 1 to 7, and Engineering 7 and 10.

See also Engineering.

POLITICAL SCIENCE.

1. Political Economy. *Fifty exercises.*

An elementary course, with lectures upon some of the practical questions of the day.

2. Laws of Business. *Thirty-three exercises.*

Recitations supplemented by lectures and the discussion of cases.

3. American Constitutional Law. *Forty-two exercises.*

Use is made of Pomeroy's Constitutional Law, which is supplemented by the decisions of the United States Supreme Court. Special attention is given to the connection between American constitutions and American political history.

4. Advanced Political Economy. *Thirty exercises.*

A consideration of such subjects as banking, bimetallism, and tariff legislation.

Open only to those who have taken Course 1.

5. Advanced Political Economy, or Social Science. *Thirty exercises.*

Open only to those who have taken Courses 1 and 4.

6. International Law. *Thirty exercises.*

SHOP WORK.

Three hours' work in the shops is reckoned as one exercise.

1. Work in Wood Shop.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

Exercises in carpentry work, joinery, and pattern making.

2. Work in Machine Shop, Forge Shop, and Foundry.

Exercises in bench work, machine work, and shop measurements, forging, moulding, and casting.

a. Forty-five exercises. *b. Thirty exercises.*
c. Thirty exercises. *d. Thirty exercises.*
e. Twenty exercises. *f. Twenty exercises.*

ZOOLOGY.

1. Introductory Zoölogy. *Forty-five exercises.*

A general introduction to the study of animal life, by means of lectures and laboratory dissections of the principal types.

2. Animal Biology. *Twenty exercises.*

A general study of the nature and processes of animal life, with especial attention to heredity, variation, development, and mental powers.

Open to students who have taken Course 1.

3. Entomology. *Thirty exercises.*

A review of the classification, structural characters, and biological relations of insects, with a special study of those injurious to cultivated crops and domestic animals, and of the means of preventing their injuries.

Open only to those who have taken Courses 1 and 2.

4. Economic Ornithology. *Fifteen exercises.*

Lectures on the relations of birds to agriculture, and their relations to each other and to other organisms.

Course 4 is open only to students who have taken Courses 1, 2, and 3.

5. Comparative Anatomy. *Ten exercises.*

6. Advanced Zoölogy.
Averaging four exercises a week for a year.

Course 6 is intended for those students who elect Zoölogy for their Senior year. It will usually be modified to suit individual needs. Open only to those who have completed all preceding courses, and shown special proficiency in Zoölogy.

7. Zoölogical Bibliography. *One hour a week for a year.*

Open only to students taking Course 6.

COURSES OF STUDY AND SCHEDULE OF HOURS.

For details, see Description of Studies.

Chapel exercises: 11.50 daily, except that on Sundays the exercises are held at 5 P. M., Attendance is required of all students.

Military Drill: Military Science 1. M., T., Th., F., 12 to 12.30. Attendance is required of all male students.

Rhetoricals: Wednesdays, 12 to 12.30. Attendance is required of all students.

FRESHMAN YEAR.

For all Four-Year Courses.

FIRST TERM.

		Exercises per week.
Rhetoric—English 1*a*	Div. I. W. F. 9 Div. II. W. F. 8	2
Algebra and Geometry—Mathematics 1 and 2	Div. I. M. T. W. Th. F. S. 10 Div. II. M. T. W. Th. F. S. 11	6
*Shop Work—Shop Work 1*a*. W. Th. F. 1.30 to 4 . . .		3
Freehand Drawing—Drawing 1*a*. M. T. 1.30 to 4 . . .		2
French—French 1. T. Th. S. 8		3
Military Tactics—Military Science 2 . .	Div. I. F. 11 Div. II. F. 10	

SECOND TERM.

Rhetoric—English 1*b*	Div. I. W. F. 9 Div. II. W. F. 8	2
Trigonometry—Mathematics 3	Div. I. M. T. W. Th. F. S. 10 Div. II. M. T. W. Th. F. S. 11	6
*Shop Work—Shop Work 1*b*. W. Th. F. 1.30 to 4 . . .		3
Freehand Drawing—Drawing 1*b*. M. T. 1.30 to 4 . . .		2
French—French 2. T. Th. S. 8		3
Military Tactics—Military Science 2 . .	Div. I. M. 11 Div. II. M. 10	

THIRD TERM.

Rhetoric—English 1*c*	Div. I. W. F. 9 Div. II. W. F. 8	2
Surveying—Engineering 1. M. T. W. Th. 1.30 to 4 . .		4
Mechanics—Physics 1. M. W. F. 10		3
†Botany—Botany 1. T. Th. S. 9 to 11.50		3
†Shop Work—Shop Work 1*c*. S. 9 to 11.50. F. 1.30 to 4 .		2
†Farm Chemistry. W. F. 11		2
†Shop Drawing—Drawing 4*a*. T. Th. 9 to 11.50 . . .		2
French—French 3. T. Th. S. 8		3
Military Tactics—Military Science 2 . .	Div. I. T. 8 Div. II. M. 9	

* Women take additional Drawing and omit Shop Work.

† Shop Work and Drawing are taken in the third term by students intending to complete either of the Engineering Courses or the Course in Technical Chemistry; Botany is taken by all other students. Farm Chemistry is required in the Agricultural Course.

COURSE IN AGRICULTURE.

Sophomore Year.

FIRST TERM.

	Exercises per week.
Farm Equipment—Agriculture 4. W. F. 9. T. 1.30	3
Olericulture—Horticulture 3. T. Th. S. 10	3
Introductory Zoölogy—Zoölogy 1. M. W. F. 1.30 to 4	3
Heat and Light—Physics 2. T. Th. S. 9	3
Inorganic Chemistry—Chemistry 1. M. W. F. 10	3
German—German 1. T. Th. S. 11	3
Military Tactics—Military Science 2. Th. 8.	
One Theme—English 2.	

SECOND TERM.

Soil Physics—Agriculture 5. W. F. 9. T. Th. 1.30	4
Arboriculture and Forestry—Horticulture 4. T. Th. 10	2
Animal Biology—Zoölogy 2. W. F. 1.30 to 4	2
Comparative Anatomy—Zoölogy 5. S. 8	1
Sound and Electricity—Physics 3 and 4. T. Th. S. 9	3
Inorganic Chemistry—Chemistry 2. M. W. F. 10	3
German—German 2. T. Th. S. 11	3
Military Tactics—Military Science 2. Th. 8.	
One Theme—English 2.	

THIRD TERM.

Stock Feeding—Agriculture 6. T. Th. 10. S. 1.30 to 4	3
Entomology—Zoölogy 3. M. W. F. 1.30 to 4	3
Plant Diseases—Botany 2. M. W. 9 to 11	2
Organic Chemistry—Chemistry 3. M. F. 11	2
Electricity and Magnetism—Physics 4. T. Th. S. 9	3
German—German 3. T. Th. S. 11	3
Military Tactics—Military Science 2. Th. 8.	
One Theme—English 2.	

Junior Year.

FIRST TERM.

Pomology—Horticulture 6. T. Th. S. 9	3
Chemistry of Plant Growth—Chemistry 5*a*. T. W. F. 8	3
Ornithology—Zoölogy 4. S. 8	1

German—German 4. M. W. F. 11 3
or Am. Political History—History 4. T. Th. S. 10 to 11.50
F. 1.30 to 4 4
Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 . 3
Early English—English 5. M. W. F. 10 3
Military Tactics—Military Science 2. M. 9.
One Original Declamation—English 3.

SECOND TERM.

Food and Nutrition—Chemistry 5*b*. W. F. 8 2
Logic—Philosophy 1. M. W. F. 10 3
Geology—Geology 1. T. Th. S. 11 3
German—German 5. M. W. F. 11 3
or Am. Political History—History 5. T. Th. S. 9 to 11 . 3
Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 . 3
Elizabethan Writers—English 6. W. F. 9 2
Military Tactics.—Military Science 2. S. 8.
One Original Declamation.

THIRD TERM.

Farm Crops—Agriculture 7. T. Th. S. 9 3
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
English Literature—English 7. T. Th. 11 2
German—German 6. M. W. F. 11 3
or Modern History—History 3. T. Th. F. 1.30 to 4 . . 3
Mineralogy—Geology 2. M. W. F. 9 to 11 3
Military Tactics—Military Science 2. S. 11.
One Original Declamation—English 3.

Senior Year.

FIRST TERM.

Breeds of Live Stock—Agriculture 9. M. T. W. 1.30 . . 3
Agricultural Seminary—Agriculture 8. By appointment . 2
Laws of Business—Political Science 2 } T. W. Th. F. S. 9 5
Constitutional Law—Political Science 3 }
English Literature—English 8. T. Th. S. 10 3
Psychology—Philosophy 2. T. Th. S. 11 3
One Original Declamation—English 4.

SECOND TERM.

Principles of Breeding—Agriculture 11. M. T. W. 1.30 . 3
Horticultural Seminary—Horticulture 7. By appointment . 2

Dairying—Agriculture 10. By appointment	2
International Law—Political Science 6. M. W. F. 11 . .	3
or Astronomy—Mathematics 6. T. W. Th. F. 9 . .	4
or Elements of Philosophy—Philosophy 4. T. W. Th. F. S. 9	5
Ethics—Philosophy 3. T. Th. S. 10	3
Advanced Political Science 4. T. Th. S. 11	3
One Original Declamation—English 4.	

THIRD TERM.

Rural Economics—Agriculture 12. By appointment . .	2
Horticultural Seminary—Horticulture 8. By appointment .	2
Landscape Gardening—Horticulture	3
*Roads—Engineering 11. M. W. F. 10	3
*American Literature—English 10. T. W. Th. F. 9. T. 1.30 to 4	5
*History of Philosophy—Philosophy 5. M. W. F. 11. S. 9 .	4
*Meteorology—Meteorology 1. T. Th. S. 10	3
*Advanced Political Economy—Political Science 5. T. Th. S. 11	3
One Original Declamation—English 4.	

* Elect 9 hours.

BIOLOGICAL DIVISION OF THE AGRICULTURAL COURSE.

Students wishing to make a special study of the biological sciences relating to Agriculture—such as botany, entomology, and economic zoölogy—will elect in their senior year the advanced courses in botany or zoölogy.

CHEMICAL DIVISION OF THE AGRICULTURAL COURSE.

The work in this division is intended especially to fit for the profession of an agricultural chemist—for work in experiment stations, large dairy establishments, fertilizer works, etc. Students wishing to take this course will elect, with the advice of the instructors in charge, seven hours per week of chemical work during the Junior year, and eight hours per week during the Senior year. Two years of German will be required in this course, and French is recommended to be taken by students intending to enter the division.

COURSES IN ENGINEERING.

Sophomore Year.

FIRST TERM.

	Exercises per week.
Analytic Geometry—Mathematics 4. T. W. Th. F. S. 8	5
Descriptive Geometry—Drawing 3*a*. M. W. 1.30 to 4	2
Heat and Light—Physics 2 { Div. I. T. Th. S. 10; Div. II. T. Th. S. 9 }	3
German—German 1. T. Th. S. 11	3
Shop Work—Shop Work 2*a*. M. W. F. 9 to 11.45	3
Military Tactics—Military Science 2. Th. 9.	
One Theme—English 2.	

SECOND TERM.

Differential Calculus—Mathematics 5*a*. T. W. Th. F. S. 8	5
Descriptive Geometry—Drawing 3*b*. M. W. 1.30 to 4	2
Sound and Electricity—Physics 3 and 4 { Div. I. T. Th. S. 10; Div. II. T. Th. S. 9 }	3
German—German 2. T. Th. S. 11	3
Shop Work—Shop Work 2*b*. M. W. F. 9 to 11.45	3
Military Tactics—Military Science 2. Th. 9.	
One Theme—English 2.	

THIRD TERM.

Integral Calculus—Mathematics 5*b*. T. W. Th. F. S. 8	5
Electricity and Magnetism—Physics 4 { Div. I. T. Th. S. 10; Div. II. T. Th. S. 9 }	3
German—German 3. T. Th. S. 11.	3
Descriptive Geometry and Perspective Drawing—Drawing 3*c* and 3*d*. M. T. W. Th. F. 1.30 to 4	5
Military Tactics—Military Science 2. Th. 9.	
One Theme—English 2.	

Junior Year.

Throughout the year shop work is taken by Mechanical Engineering students and dynamos and electro-motors by Electrical Engineering students.

FIRST TERM.

Mechanics of Engineering—Engineering 3*a*. W. F. 9	2
Mechanism—Engineering 2. T. S. 8 to 11. Th. 9 to 11	3
Inorganic Chemistry—Chemistry 1. M. W. F. 10	3

Least Squares and Precision of Measurements—Physics 5. M. T. W. 1.30 to 4 3
Steam Engineering—Engineering 5*a*. T. Th. S. 11 . . 3
Dynamos and Electro-Motors—Engineering 7*a*. M. 9. Th. F. 8 3
Shop Work—Shop Work 2*d*. Th. F. 1.30 to 4 2
Military Tactics—Military Science 2. W. 8.
One Original Declamation—English 3.

SECOND TERM.

Mechanics of Engineering—Engineering 3*b*. T. W. Th. F. S. 9 5
Inorganic Chemistry—Chemistry 2. M. W. F. 10 . . . 3
Physical Laboratory—Physics 6*a*. M. T. W. 1.30 to 4 . . 3
Steam Engineering—Engineering 5*b*. T. Th. S. 11 . . 3
Dynamos and Electro-Motors—Engineering 7*b*. M. 9. W. Th. F. 8 4
Shop Work—Shop Work 2*e*. Th. F. 1.30 to 4 2
Military Tactics—Military Science 2. S. 8.
One Original Declamation—English 3.

THIRD TERM.

Mechanics of Engineering—Engineering 3*c*. T. W. Th. F. S. 8 5
Mineralogy—Geology 2. M. W. F. 9 to 11 3
Physical Laboratory—Physics 7*b*. M. T. W. 1.30 to 4 . . 3
Steam Engineering—Engineering 5*c*. T. Th. S. 10 . . 3
Dynamos and Electro-Motors—Engineering 7*c*. T. Th. 11. S. 9 3
Shop Work—Shop Work 2*f*. Th. F. 1.30 to 4 2
Military Tactics—Military Science 2. S. 11.
One Original Declamation—English 3.

COURSE IN MECHANICAL ENGINEERING.

Senior Year.

FIRST TERM.

Exercises per week.

Materials of Construction—Engineering 4. M. W. Th. 10. T. 8 4
Hydraulics—Engineering 6. T. 10. W. 8. Th. 9 . . . 3
or German—German 4. M. W. F. 11 3
Mechanical Drawing—Drawing 4*b*. F. 9 to 11. S. 8 to 11 . 2
Mechanical Laboratory—Engineering 8*a*. Th. F. 1.30 to 4 . 2
Dynamos and Electro-Motors—Engineering 7*a*. M. 9. Th. F. 8 3
Chemical Laboratory—Chemistry 4. M. W. 1.30 to 4 . . 2
One Original Declamation—English 4.

SECOND TERM.

Machine Design—Engineering 9. T. 8. W. Th. S. 10 . .	4
Mechanical Laboratory—Engineering 8*b*. W. Th. F. 1.30 to 4	3
Dynamos and Electro-Motors—Engineering 7*b*. M. 9. W. Th. F. 8	4
Mechanical Engineering—Engineering 10*a*. M. T. 10. S. 8	3
or German—German 5. M. W. F. 11	3
Chemical Laboratory—Chemistry 4. M. T. 1.30 to 4 . .	2
One Original Declamation—English 4.	

THIRD TERM.

Dynamos and Electro-Motors—Engineering 7*c*. T. Th. 11 S. 9	3
Mechanical Engineering—Engineering 10*b*. T. Th. 9. S. 11	3
or German—German 6. M. W. F. 11	3
Mechanical Laboratory—Engineering 8*c*. M. T. 1.30 to 4 .	2
Political Economy—Political Science 1. T. W. Th. F. S. 8 .	5
Thesis. M. T. W. 1.30 to 4	3
One Original Declamation—English 4.	

COURSE IN ELECTRICAL ENGINEERING.

Senior Year.

FIRST TERM.

	Exercises per week.
Materials of Construction—Engineering 4. M. W. Th. 10. T. 8	4
Theoretical Electricity—Physics 7*a*. T. S. 11. W. 9 . .	3
Mechanical Drawing—Drawing 4*b*. F. S. 8 to 11 . . .	2
Mechanical Laboratory—Engineering 8*a*. Th. F. 1.30 to 4	2
Electrical Engineering—Engineering 12*a*. M. W. 8. Th. 11	3
or German—German 4. M. W. F. 11	3
Chemical Laboratory—Chemistry 4. M. W. 1.30 to 4 . .	2
One Original Declamation—English 4.	

SECOND TERM.

Electrical Laboratory—Physics 9*a*. T. Th. 9 to 11 . .	2
Electrical Engineering—Engineering 12*b*. M. W. F. 10 .	3
or German—German 5. M. W. F. 11	3
Mechanical Laboratory—Engineering 8*b*. W. Th. F. 1.30 to 4	3
Theoretical Electricity—Physics 7*b*. T. Th. S. 11. W. F. 9. S. 8	6
Chemical Laboratory—Chemistry 4. M. T. 1.30 to 4 . .	2
One Original Declamation—English 4.	

THIRD TERM.

Mechanical Laboratory—Engineering 8*c*. M. T. 9 to 11.45 .	2
Electrical Engineering—Engineering 12*c*. M. T. F. 9. S. 11	4
or German—German 6. M. W. F. 11	3
Electrical Laboratory—Physics 9*b*. W. Th. 1.30 to 4 . .	2
Thesis. Th. 9 to 11.45. F. 1.30 to 4. S. 9 to 11 . . .	3
Political Economy—Political Science 1. T. W. Th. F. S. 8 .	5
One Original Declamation—English 4.	

COURSE IN TECHNICAL CHEMISTRY.

Sophomore Year.

FIRST TERM.

	Exercises per week.
Analytic Geometry—Mathematics 4. T. W. Th. F. S. 8 .	5
Descriptive Geometry—Drawing 3*a*. M. W. 1.30 to 4 . .	2
German—German 1. T. Th. S. 11	3
Inorganic Chemistry—Chemistry 1. M. W. F. 10 . . .	3
Heat and Light—Physics 2 . . { Div. I. T. Th. S. 10; Div. II. T. Th. S. 9 }	3
Military Tactics—Military Science 2. Th. 9.	
One Theme—English 2.	

SECOND TERM.

Differential Calculus—Mathematics 5*a*. T. W. Th. F. S. 8 .	5
Descriptive Geometry—Drawing 3*b*. M. W. 1.30 to 4 . .	2
German—German 2. T. Th. S. 11	3
Inorganic Chemistry—Chemistry 2. M. W. F. 10 . . .	3
Sound and Electricity—Physics 3 and 4 { Div. I. T. Th. S. 10; Div. II. T. Th. S. 9 }	3
Military Tactics—Military Science 2. Th. 9.	
One Theme—English 2.	

THIRD TERM.

Integral Calculus—Mathematics 5*b*. T. W. Th. F. S. 8 .	5
Mineralogy—Geology 2. M. W. F. 9 to 11	3
German—German 3. T. Th. S. 11	3
Organic Chemistry—Chemistry 3. W. F. 11	2
Electricity and Magnetism—Physics 4 { Div. I. T. Th. S. 10; Div. II. T. Th. S. 9 }	3
Military Tactics—Military Science 2. Th. 9.	
One Theme—English 2.	

Junior Year.

FIRST TERM.

Chemistry of Plant Growth—Chemistry 5*a*. T. W. F. 8 . 3
Shop Work—Shop Work 2*a*. Th. S. 9 to 11 2
German—German 4. M. W. F. 11 3
Mechanics of Engineering—Engineering 3*a*. W. F. 9 . . 2
Chemical Laboratory—Chemistry 4 and 7. M. T. W. Th. F. 1.30 to 4. F. 9 to 11 6
Military Tactics—Military Science 2. M. 9.
One Original Declamation—English 3.

SECOND TERM.

Chemical Laboratory—Chemistry 7. M. T. W. Th. F. 1.30 to 4. M. 9 to 11 6
Applied Chemistry—Chemistry 6*a*. T. W. 10 2
Mechanics of Engineering—Engineering 3*b*. T. W. Th. F. S. 9 5
German—German 5. M. W. F. 11 3
Military Tactics—Military Science 2. S. 8.
One Original Declamation—English 3.

THIRD TERM.

Chemical Laboratory—Chemistry 7. M. T. W. Th. F. 1.30 to 4. S. 9 to 11 6
Applied Chemistry—Chemistry 6*b*. M. W. 8 2
Mechanics of Engineering—Engineering 3*c*. T. W. Th. F. S. 8 5
German—German 6. M. W. F. 11 3
Military Tactics—Military Science 2. S. 11.
One Original Declamation—English 3.

Senior Year.

FIRST TERM.

Chemical Laboratory—Chemistry 7. M. W. F. 1.30 to 4. T. W. 8 to 11. Th. F. 9 to 11 7
Organic Chemistry—Chemistry 8. T. Th. 1.30 to 4 2
Chemical Journals—Chemistry 9. S. 9 1
Steam Engineering—Engineering 5*a*. T. Th. S. 11 . . . 3
Dynamos and Electro-Motors—Engineering 7*a*. M. 9. Th. F. 8 3
One Original Declamation—English 4.

SECOND TERM.

Chemical Laboratory—Chemistry 7 and Thesis. W. F. 8 to 11. T. Th. 1.30 to 4. S. 8 to 10 7
Steam Engineering—Engineering 5*b*. T. Th. S. 11 . . 3
Chemical Journals—Chemistry 9. S. 10 1
Chemical Philosophy—Chemistry 10*a*. T. Th. 10 . . . 2
Electrical Measurements—Physics 8. M. W. F. 11 . . . 3
One Original Declamation—English 4.

THIRD TERM.

Chemical Laboratory—Chemistry 7 and Thesis. M. T. W. Th. F. 1.30 to 4 5
Chemical Journals—Chemistry 9. S. 11 1
Chemical Philosophy—Chemistry 10*b*. T. Th. 11 . . . 2
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
Meteorology—Meteorology 1. T. Th. S. 10 3
One Original Declamation—English 4.

GENERAL COURSE.

This course gives to students an opportunity to take parts of the courses in Agriculture and the Mechanic Arts: to pursue the study of English, French, German, and History each for two or more years: to devote to Philosophy one year and to Mathematics and the Sciences the time usually allowed in colleges. With its arrangement of elective studies it is fitted to serve at the same time as a course for women and as a preparation for professional study or business life.

Sophomore Year.

FIRST TERM.

Introductory Zoölogy—Zoölogy 1. M. W. F. 1.30 to 4 . . 3
German—German 1. T. Th. S. 11 3
Inorganic Chemistry—Chemistry 1. M. W. F. 10 . . . 3
Heat and Light—Physics 2 . . . { Div. I. T. Th. S. 10 / Div. II. T. Th. S. 9 } 3
Medieval and Modern History—History 1. W. F. 11. T. Th. 1.30 to 4.
or, Analytic Geometry—Mathematics 4. T. W. Th. F. S. 8 4 or 5
Military Tactics—Military Science 2. Th. 8 or 9.
One Theme—English 2.

SECOND TERM.

German—German 2. T. Th. S. 11	3
Inorganic Chemistry—Chemistry 2. M. W. F. 10 . . .	3
Sound and Electricity—Physics 3 and 4 { Div. I. T. Th. S. 10 / Div. II. T. Th. S. 9 }	3
*Modern History—History 2. M. T. Th. 1.30 to 4 . . .	3
*Animal Biology—Zoölogy 2. W. F. 1.30 to 4 . . .	2
*Advanced Freehand Drawing—Drawing 2*a*. W. F. 8 to 10	2
*Study of words—English 11. W. F. 11	2
*Differential Calculus—Mathematics 5*a*. T. W. Th. F. S. 8	5
Military Tactics—Military Science 2. Th. 8 or 9.	
One Theme—English 2.	

*Elect 7 hours.

THIRD TERM.

German—German 3. T. Th. S. 11	3
Electricity and Magnetism—Physics 4 { Div. I. T. Th. S. 10 / Div. II. T. Th. S. 9 }	3
*European History since 1789—History 3. T. Th. F. 1.30 to 4	3
*Entomology—Zoölogy 3. M. W. F. 1.30 to 4 . . .	3
*Organic Chemistry—Chemistry 3. W. F. 11	2
*Advanced Freehand Drawing—Drawing 2*b*. M. W. F. 9 to 11	3
*Advanced Rhetoric—English 12. Th. F. 1.30 to 4 . .	2
*Integral Calculus—Mathematics 5*b*. T. W. Th. F. S. 8 .	5
Military Tactics—Military Science 2. Th. 8 or 9.	
One Theme—English 2.	

*Elect 10 hours.

Junior Year.

FIRST TERM.

German—German 4. M. W. F. 11	3
American Political History—History 4. T. Th. S. 10 to 11.50 F. 1.30 to 4	4
Early English—English 5. M. W. F. 10	3
*Chemistry of Plant Growth—Chemistry 5*a*. T. W. F. 8	3
*Economic Ornithology—Zoölogy 4. S. 8	1
*Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 .	3
*Least Squares and Precision of Measurements—Physics 5. M. T. W. 1.30 to 4	3
*Drawing—Drawing 5*a*. T. Th. 8 to 10. Th. 1.30 to 4 .	3
*Differential Equations—Mathematics 7	2
Military Tactics—Military Science 2. W. 8 or M. 9.	
One Original Declamation—English 3.	

* Elect 6 hours.

SECOND TERM.

German—German 5. M. W. F. 11 3
American Political History—History 5. T. Th. S. 9 to 11 . 3
Elizabethan Writers—English 6. W. F. 9 2
Logic—Philosophy 1. M. W. F. 10 3
*Geology—Geology 1. T. Th. S. 11 3
*Food and Nutrition—Chemistry 5*b*. W. F. 8 . . . 2
*Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 . 3
*Physical Laboratory—Physics 6*a*. M. T. W. 1.30 to 4 . . 3
*Drawing—Drawing 5*b*. T. Th. S. 8. Th. F. 1.30 to 4 . 2 or 5
*Quaternions—Mathematics 8 2
Military Tactics—Military Science 2. S. 8.
One Original Declamation—English 3.

* Elect 5 hours.

THIRD TERM.

German—German 6. M. W. F. 11 3
Mineralogy—Geology 2. M. W. F. 9 to 11 3
Writers of Restoration—English 7. T. Th. 11 . . . 2
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
Military Tactics—Military Science 2. S. 11.
One Original Declamation—English 3.
*Drawing—Drawing 5*c*. T. Th. S. 9 to 11 3
*Chemical Laboratory—Chemistry 7. M. T. W. 1.30 to 4 . 3
*Physical Laboratory—Physics 6*b*. M. T. W. 1.30 to 4 . . 3

* Elect 3 hours.

Senior Year.

FIRST TERM.

English 4 required; sixteen exercises elective.

Constitutional Law—Political Science 3
Laws of Business—Political Science 2 } T. W. Th. F. S. 9 5
German—German 7
or French—French 4 } M. W. F. 10 3
Victorian Writers—English 8. T. Th. S. 10 3
Psychology—Philosophy 2. T. Th. S. 11 3
Chemical Laboratory—Chemistry 7. M. T. W. 1.30 to 4 . 3
Advanced Zoölogy—Zoölogy 6. M. T. W. Th. 1.30 to 4 . . 4
Advanced Botany—Botany 3. M. T. W. 1.30 to 4 . . . 3
Drawing and History of Painting—Drawing 6*a*. M. T. W. 1.30 to 4 . . . . . , 3
One Original Declamation—English 4.
Thesis Work 2

SECOND TERM.

English 4 required; sixteen exercises elective.

German—German 8 or French—French 5	M. W. F. 10	3
Astronomy—Mathematics 6.	T. W. Th. F. 9	4
International Law—Political Science 6.	M. W. F. 11	3
English Romance—English 9.	Th. F. 3	2
Elements of Philosophy—Philosophy 4.	T. W. Th. F. S. 9	5
Ethics—Philosophy 3.	T. Th. S. 10	3
Advanced Political Economy—Political Science 4.	T. Th. S. 11	3
Chemical Laboratory—Chemistry 7.	M. T. W. 1.30 to 4	3
Advanced Zoölogy—Zoölogy 6.	M. T. W. 1.30 to 4	3
Advanced Botany—Botany 3.	M. T. W. 1.30 to 4	3
Advanced Drawing and History of Painting—Drawing 6*b*.	M. T. W. 1.30 to 4	3
One Original Declamation—English 4.		
Thesis Work		1 or 2

THIRD TERM.

English 4 required; fourteen exercises elective.

American Literature—English 10.	T. W. Th. F. 9. T. 1.30 to 4	5
German—German 9 or French—French 6	M. W. F. 10	3
Meteorology—Meteorology 1.	T. Th. S. 10	3
Roads—Engineering 11.	M. W. F. 10	3
History of Philosophy—Philosophy 5.	M. W. F. 11. S. 9	4
Advanced Political Economy—Political Science 5.	T. Th. S. 11	3
Chemical Laboratory—Chemistry 7.	M. W. F. P. M.	3
Advanced Zoölogy—Zoölogy 6.	M. W. F. P. M.	3
Advanced Botany—Botany 3.	M. W. F. P. M.	3
Advanced Drawing and History of Painting—Drawing 6*c*.	M. W. F. P. M.	3
One Original Declamation—English 4.		
Thesis Work.		

THE PREPARATORY YEAR.

The preparatory year, first offered in 1897, is intended to meet a demand which has been made in certain sections of the state where students have with difficulty secured adequate

GREENHOUSE, WITH BARN IN BACKGROUND.

preparation for admission to the Freshman class. It also makes the four years' course of additional value by increasing the requirements for admission to that class.

COURSE OF STUDY AND SCHEDULE OF HOURS.

FIRST TERM.

	Exercises per week.
Higher Algebra. M. W. F. 3	3
Plane Geometry. T. Th. 3. W. F. 9	4
Rhetoric with Study of Authors. M. W. F. 11	3
For description of work, see Requirements for Admission, page 16.	
French Grammar. T. Th. S. 9	3
A drill in the essentials for accurate translation.	
Grecian History. T. Th. S. 11	3
Military Tactics—Military Science 2. F. 10.	

SECOND TERM.

Higher Algebra. M. W. F. 3	3
Plane Geometry. T. W. Th. F. 8	4
Rhetoric, with Study of Authors. T. Th. S. 11	3
French Reader. T. Th. S. 9	3
Easy selections; irregular verbs.	
Roman History. M. W. F. 11	3
Military Tactics—Military Science 2. M. 11.	

THIRD TERM.

Study of Authors. W. F. 8	2
Readings from French History. T. Th. S. 9	3
Study of variety of style and peculiarities of syntax.	
Elementary Physics. M. T. Th. S. 11. W. F. 9	6
Introductory Botany. M. T. W. Th. F. 1.30 to 4	5
A general introduction to the study of plants by means of laboratory work and lectures.	
Military Tactics—Military Science 2. M. 9.	

THE TWO YEARS' COURSE IN AGRICULTURE.

The Two Years' Course in Practical and Theoretical Agriculture provided for by the legislature of 1895 was established for and is open to "students who can pass a fair and reasonable examination in reading, spelling, writing, arithmetic, English grammar, and the geography and history of the United States." This course is especially devoted to the

study of practical and theoretical agriculture in its various branches, and the natural sciences, which are so closely related to successful farming. At least ten hours each week are spent in practical exercises, which, so far as possible, are educational in their nature. This work is done on the farm, or in the garden, barn, greenhouse, or shop.

The course offers unusual opportunities to young men to obtain in a short time and at small expense a knowledge of the fundamental principles of agriculture.

COURSE OF STUDY AND SCHEDULE OF HOURS.

FIRST TERM.

	Exercises per week.
Elements of Agriculture—Agriculture 1. T. Th. S.11. F. 1.30	4
Principles of Plant Growth—Horticulture 1. M. T. Th. S. 8	4
Algebra. T. Th. S. 9	3
Grammar—English Grammar and Composition. W. F. 8	2
Drawing. M. T. 1.30 to 4	2
Military Tactics—Military Science 2. F. 11.	

SECOND TERM.

Dairying—Agriculture 2. By appointment	4
Breeds and Breeding—Agriculture 3. T. Th. S. 11. F. 1.30	4
Algebra. T. Th. S. 9	3
Grammar. W. F. 9	3
Drawing. M. T. 1.30 to 4	2
Military Tactics—Military Science 2. M. 11.	

THIRD TERM.

Botany. M. T. W. Th. F. 1.30 to 4	5
Farm Chemistry. W. F. 11	2
Physics. M. T. Th. S. 11. W. F. 9	6
Algebra. T. Th. S. 9	3
Military Tactics—Military Science 2. T. 8.	

SECOND YEAR.

FIRST TERM.

Farm Equipment—Agriculture 4. W. F. 10. Th. 1.30	3
Olericulture—Horticulture 3. T. Th. S. 10	3
Introductory Zoölogy—Zoölogy 1. M. W. F. 1.30 to 4	3

English—English. M. W. F. 11 3
Geometry—Mathematics. W. F. 9. T. Th. 3 4
Military Tactics—Military Science 2. Th. 9.

SECOND TERM.

Soil Physics—Agriculture 5. M. W. F. 9. Th. 1.30 . . . 4
Winter Gardening—Horticulture 5. M. W. 11 2
Arboriculture and Forestry—Horticulture 4. T. Th. 10 . 2
Comparative Anatomy—Zoölogy 5. S. 8 1
Animal Biology—Zoölogy 2. W. F. 1.30 to 4 2
English—English. T. Th. S. 11 . . . . . .
Geometry—Mathematics. T. W. Th. F. 8 4
Military Tactics—Military Science 2. Th. 9.

THIRD TERM.

Stock Feeding—Agriculture 6. T. F. 11. Th. 1.30 3
Fruit Growing—Horticulture. M. T. W. Th. S. 10 . . . 5
Entomology—Zoölogy 3. M. W. F. 1.30 to 4 3
English—English. W. F. 8 2
Commercial Fertilizers—Chemistry. W. S. 11 2
Farm Crops—Agriculture 7 3
Military Tactics—Military Science 2. Th. 9.

TEN WEEKS' WINTER COURSE IN AGRICULTURE.

The college offers a Winter Course in agriculture, beginning Thursday, January 11, and continuing until Wednesday, March 21, 1900.

No entrance examination is required, but students taking the course should possess a common school education.

The studies offered are dairying, stock-feeding, winter gardening, wood-working, forestry, and entomology, with practice in the creamery, barn, greenhouse, or wood-shop.

A fee of five dollars will be charged for tuition.

The expense of the course may be estimated as follows:

Room and board, ten weeks, at $4 . .	$40.00
Tuition fee	5.00
Books	3.00
Total	$48.00

Applicants should report at the president's office, Thompson Hall, Durham, on Wednesday, January 11, 1900.

TEN WEEKS' COURSE IN DAIRYING.

This course is offered in connection with the Winter Course in Agriculture, to young men who wish to make a specialty of dairying. It is designed for those who are specially desirous of mastering the art of butter-making, or who wish to become fitted for the position of manager or superintendent of a creamery. In New Hampshire, where dairying is carried on to a great extent in the sale of milk for the city markets, this course is especially valuable as a training for those operating farm dairies.

The course in dairying begins January 11, 1900, and closes March 21. The subjects taught are butter-making, milk testing, pasteurizing milk and cream, dairy bacteriology, dairy farming, dairy chemistry, and care of steam engines and boilers.

The creamery is equipped with separator, milk tester, pasteurizer, and all tools required in making butter and preparing milk and cream for market.

Requirements for admission are the same as for the Winter Course in Agriculture.

ESTIMATE OF EXPENSES.

Room rent, ten weeks at $1 . . .	$10.00
Board, ten weeks at $3	30.00
Fee	5.00
Books	3.00
Total	$48.00

For circulars or further information concerning these courses address Prof. C. W. Burkett, Durham, N. H.

GENERAL INFORMATION.

ATTENDANCE.

All regular students are required to attend chapel and rhetorical exercises, and to register for at least sixteen exercises per week; all male students are required to attend military drill.

TERM BILLS.

Tuition and fees are payable in advance, in two equal instalments: One on the first day of the fall term, and one on the first day of the winter term, of each year.

ELECTION OF STUDIES.

Every student must, on the Saturday before the last in each term, notify in writing the secretary of the faculty of his elections for the term following. Any student who, having made his elections, desires to change, shall make application to the faculty in writing, with a statement in full of his reasons.

CONDITIONAL ADMISSION.

Students admitted conditionally to the preparatory year must make up all conditions before admission to the Freshman class. Students admitted conditionally to the Freshman class must make up all conditions before admission to the Sophomore class.

CLASSIFICATION OF STUDENTS.

Students are not catalogued in a class until they have completed three fourths of the work in each of the previous years.

DEGREES.

The degree of Bachelor of Science will be conferred upon those who complete a four years course or its equivalent.

The regular work of the Senior class, including the regular final examinations, is completed at 4 P. M. on the Tuesday of the week preceding Commencement; and each member of the class may receive a statement of his standing at the office of the secretary of the faculty at 2 P. M. on the next day, Wednesday. All work required for graduation must be completed by 6 P. M. of the Saturday of the same week.

Each candidate for a degree must prepare a thesis on some subject relating to the studies he has taken.

After the satisfactory completion of an appropriate amount of post-graduate work, advanced degrees will be given.

POST-GRADUATE STUDY.

The college offers opportunities for post-graduate study in agriculture, biology, chemistry, and engineering.

SPECIAL STUDENTS.

Any person of mature years may be admitted as a special student, by vote of the faculty, upon presenting satisfactory evidence of ability to complete the desired course of study.

PARTIAL COURSE STUDENTS.

A student taking less than the regular work, or having a deficiency that has continued for more than one year, is considered a partial course student.

COURSES FOR WOMEN.

Women attending the college may elect any course laid down in the curriculum, subject to the conditions prescribed for all students. They may omit manual labor on the farm and in the shop, and substitute other studies.

The General Course, with its electives, is specially prepared for women, and is so planned that special courses may be

arranged in literature, languages, history, philosophy, drawing, and manual training.

The courses in agriculture and chemistry afford opportunities for the study of the natural sciences, and the engineering courses offer exceptional advantages in mathematics and physics.

PRIZES.

I. The Smyth Prizes.—Through the provisions of the will of Hon. Frederick Smyth, the following prizes are offered: To the members of the Senior and Junior classes, two prizes, one of twenty dollars and the other of ten, for the best essays on subjects connected with agriculture or the mechanic arts; also three prizes, one of twenty, one of fifteen, and one of ten dollars, for excellence in oratory. To the members of the Sophomore and Freshman classes, two prizes for reading, one of fifteen and one of ten dollars.

II. Bailey Prize.—Dr. C. H. Bailey, of Gardner, Mass., and E. A. Bailey, B. S., of Keene, N. H., offer a prize of ten dollars for proficiency in chemistry.

III. Erskine Mason Memorial Prize.—Mrs. Erskine Mason, of Stamford, Conn., has invested one hundred dollars as a memorial of her son, a member of the class of '93, the income of which is to be given, for the present, to that member of the Senior class who has made the greatest improvement during his course.

IV. Entrance Examination Prize of $500. See Valentine Smith Scholarships, page 61.

BUILDINGS.

THOMPSON HALL.

Thompson Hall, the main college building, has a length of 128 feet, exclusive of a porte cochère 40 feet long, and a width of 93 feet in the widest part. It is built of granite and brick, and has three stories besides the basement.

One half of the first floor and basement is devoted to the library, which is provided with a large, well-lighted reading room for papers and magazines, a reference room for special

work, a librarian's room, a delivery room, and shelf space for fifty thousand volumes.

The remainder of the first floor is used for offices, recitation rooms, and a waiting room for women.

On the second floor are more offices and recitation rooms, as well as the botanical and zoölogical laboratories.

On the third floor is the large hall used as an auditorium, two literary society rooms, and the bell-boy's room.

The building is lighted by gas and electricity, and provided with the most approved system of heating and ventilation.

CONANT HALL.

[Chemical and Physical Laboratories.]

Conant Hall contains the laboratories and lecture rooms for instruction in chemistry, physics, and electrical engineering. It is a substantial brick building, 92 by 70 feet, and three stories high, including the basement. It is heated by steam brought from the shops, lighted by gas and electricity, and provided with a system of thorough ventilation. Water, gas, high pressure steam, hydrogen, oxygen, vacuum, and blast are supplied through pipes whenever needed, and the lecture rooms in addition have switches controlling both dynamo and battery currents, and arrangements for stereopticon illustration.

The basement contains a small workshop, the battery, photometer, photographic and comparator rooms, a clock room protected by double walls against changes in temperature, an acid room, and a water and gas laboratory, provided with the necessary fixtures and appliances.

The first floor, with the exception of one room, is occupied by the physics department. It contains the mineralogical laboratory, which is provided with tile-covered desks and other facilities for blowpipe analysis; the junior physical laboratory; an apparatus room; a reading room and reference room for physical and electrical books and periodicals; an electrical laboratory, from the neighborhood of which masses of iron have been excluded, so that magnetic measurements

can be made with a good degree of accuracy; and the physical lecture room, which is provided with all necessary conveniences, as before mentioned. For optical experiments, the room can be darkened by means of special window-shutters, operated from one of the lecture desks. A stone pier between the two desks makes it possible to use delicate instruments.

The second floor is given up entirely to the chemical department. It contains storerooms, an organic laboratory, a qualitative laboratory, a private laboratory, a dark room for polariscopic and spectroscopic work, a lecture room provided with facilities as before described, a quantitative laboratory, and a room to contain the delicate chemical balances and most important reference works.

The laboratories are fitted up with the most modern accessories, and with special reference to the kind of work to be performed in each.

WORKSHOPS AND ENGINEERING LABORATORY.

The shops have been planned and built with the object of providing facilities for instruction in the working of wood and metals, and in the design, construction, care, and management of machinery. Incorporated with the shops is a central station for furnishing heat, light, water, and power, wherever needed in any of the college buildings; and the machinery of this station forms a part of the material equipment of the engineering departments.

The main shop building is 42 by 106 feet, and two stories high, with a basement 31 by 42 feet. In a separate one-story building, 40 by 100 feet, on a level with the basement of the main building, are the boiler house, forge shop, coal shed, and foundry.

In the boiler room, three boilers, aggregating one hundred and sixty horse-power, furnish steam to all the college buildings, wherever needed for heating or power. A brick chimney 95 feet high carries away the waste gases from the furnaces. The coal room provides for the storage of two hundred tons of coal conveniently near the boilers.

The basement of the main building is used as an engine-room and laboratory, containing a forty horse-power engine, furnishing power for the shops and for the electric lighting; a dynamo for lighting the college buildings and campus; an eight horse-power, shaft governor slide valve engine; a direct acting steam pump; and the large compound duplex steam pump which receives water by gravity from a reservoir one half mile distant and forces it through underground mains to the various hydrants and buildings or over a rectangular main where it is measured.

The engine-room serves as a power laboratory and the machines and boilers mentioned, with others, are fitted to give the student opportunity for becoming familiar with the generation, distribution, and use of steam, for valve setting, both with and without the indicator, and for making efficiency tests.

Among other apparatus is a dynamic steam engine indicator tester of one of the latest patterns, and a 50,000-pound Olson testing machine with the necessary appliances for testing cast-iron, wrought iron, steel or composition in tension; also for transverse and compression tests.

The laboratory contains the usual equipment of gauges, thermometers, scales, etc.

In addition to the instruction given in the laboratory, excursions are made to various outside power plants, and when practicable, tests are made, thus enabling the student to become familiar with various types of engineering practice.

On the first floor of the main shop building, a lavatory is provided. The largest room on this floor is the machine-shop, where there is opportunity for practice in the operations of working metals by cutting tools, both by hand work and by machinery.

The second floor of this building is mainly occupied by a wood shop, in which the common branches of carpentry, joinery, and pattern making are taught. Practice is given in the use of carpenter's tools, and in the care and operation of the machines of most general use in wood-working.

The forge shop is fitted with forges and tools of the latest pattern and instruction is given in forging, molding, tempering, and riveting.

In the molding room the student is taught to mold and cast from the various patterns made in the wood shop.

The shop buildings are constructed on the "slow-burning" principle, with thick walls, and heavy, continuous plank floors. The rooms are all well lighted and well ventilated.

APPARATUS.

The various chemical laboratories are supplied with a full line of such apparatus as is required in each. Besides all necessary glass and porcelain ware, this includes water baths; drying ovens, combustion, muffle, and assay furnaces; platinum dishes and crucibles; polariscope; spectroscope; balances; lantern and other lecture appliances, etc.

The physical laboratory is equipped with a good collection of the usual apparatus for laboratory work and lecture-room illustration, to which will be continually added pieces purchased or made in the college shop.

In electricity and magnetism, the equipment includes instruments of high precision, and of the latest forms, for the measurement of current electro-motive force and resistance, as well as others of less accuracy for elementary work.

For more strictly electrical engineering work, the department has the five-hundred-light alternator used in lighting the college buildings, a direct-current "exciter" dynamo, all the apparatus of a complete fifty-five-light Edison isolated electric lighting plant, a Sorley storage battery of twenty-six cells, arc and incandescent lamps, and standard forms of voltmeter, ammeter, and transformer.

The zoölogical laboratory is well supplied with aquaria, microscopes, dissecting tools, charts, reference books, collections, etc.

The botanical laboratory is supplied with a good herbarium, microscopes, and the other necessary appliances.

The surveying instruments are sufficient in number and of the most approved pattern.

MUSEUM.

The museum had for a nucleus the collections made during the state geological survey. To this additions have been made from various sources. Many specimens are being collected to illustrate zoölogy—especially entomology.

LIBRARY.

The library of the college consists of about seven thousand bound volumes, besides pamphlets. A considerable part of these are new and expensive books, making good working libraries for the different departments of instruction, including economic science and English and American literature.

Students also have the free use of the Durham public library of about six thousand well-selected volumes.

The college supports a reading-room, which is well supplied with the leading American and foreign periodicals.

FARM.

The farm contains more than three hundred acres of valuable land. It has been provided partly from the funds given by Hon. John Conant, and partly from the Benjamin Thompson estate.

It is used for the purpose of an experiment station, for which it is considered by leading agriculturists to be especially fitted.

A model barn has been erected, at an expense of about ten thousand dollars.

SITUATION AND RAILROAD CONNECTIONS.

Durham is situated on the western division of the Boston & Maine Railroad, sixty-two miles from Boston, and about midway between Rockingham Junction and the city of Dover, being five miles from the latter place.

PECUNIARY AID AND EXPENSES.

Tuition is $60 per year, although numerous scholarships give free tuition to many New Hampshire students.

CONANT SCHOLARSHIPS.

There are thirty Conant scholarships, each paying $40 and tuition, $60,—total $100. These are to be assigned under the following conditions:

1. They are to be given to young men taking an agricultural course.
2. Each town in Cheshire county is entitled to one scholarship, and Jaffrey is entitled to two.
3. Scholarships not taken by students from Cheshire county, and those in excess of the number of towns, are to be assigned to agricultural students at the discretion of the Faculty.

SENATORIAL SCHOLARSHIPS.

There are twenty-four senatorial scholarships,—one for each senatorial district. Each scholarship is to pay tuition, $60. Senatorial scholarships not filled can be assigned to students from other localities at the discretion of the Faculty; they are open to students in all courses.

Early application should be made for these scholarships. They will be reserved for those respective towns and districts until August 1 of each year, after which they may be otherwise assigned for the year.

These scholarships are given for the purpose of aiding deserving students, and will be withdrawn from those who use tobacco or intoxicating liquors, or show themselves not deserving. Janitorships, work on the farm, etc., also furnish assistance to a considerable extent.

VALENTINE SMITH SCHOLARSHIPS.

Through the generosity of Mr. Hamilton Smith of Durham, the sum of $10,000 has been given to the college to establish the Valentine Smith scholarships.

"The income thus accruing to the college shall be given to the graduate of an approved high school or academy who shall, upon examination, be judged to have the most thorough preparation for admission to the college, provided,

"That this income shall be paid to the student to whom it is awarded, in eight semi-annual payments, at the time appointed for the payment of term bills, and,

"That if the student receiving this scholarship shall at any time prove unworthy, in the judgment of the faculty, by reason of defective scholarship or character, he shall forfeit his claim to the student most deserving; and,

"That if the student receiving this scholarship shall cease to be a member of the college, the income from this fund, for the unexpired term, shall be awarded to the student most deserving, in character and scholarship."

These scholarships, yielding $500 each, became available to those applying for examination in 1898, and to one student in each succeeding class.

Expenses may be estimated as follows:

ESTIMATE OF EXPENSES.

Tuition	Free	$60.00
Text-books	$10.00	20.00
*Fees	15.00	15.00
Room rent, including fuel . . .	18.00 to	40.00
Board, $3 to $3.50 per week, for 35 weeks	105.00 to	122.50
Total	$148.00	$257.50

Room rent is estimated on the supposition that two students occupy the same room or suite of rooms.

Rooms may be obtained either furnished or unfurnished. Most of the rooms are in suites, and are in buildings provided with heating apparatus and bath rooms.

The college has no rooms for students.

In Q. T. V. Hall the expense of the best suites, with heating, is $70 per year.

For further information, address President Charles S. Murkland, or Prof. C. M. Weed, secretary of the Faculty.

* Including all charges commonly considered for extras, except those for breakage and damage to college property.

NESMITH HALL—THE EXPERIMENT STATION BUILDING.

JCZ.

AGRICULTURAL EXPERIMENT STATION.

This department of the college is provided for by the national government, at an annual expense of fifteen thousand dollars.

The act of congress provides,—

"That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping, as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states and territories."

NESMITH HALL.

Nesmith Hall, a brick building two stories in height, is used for the work of the Agricultural Experiment Station. It contains offices and working rooms, a reference library, a chemical and an entomological as well as a bacteriological and microscopical laboratory.

BOARD OF CONTROL.

Hon. JOHN G. TALLANT, *Chairman*	Pembroke.
Hon. GEORGE A. WASON . . .	New Boston.
CHARLES W. STONE, A. M., *Secretary* .	East Andover.
Pres. CHAS. S. MURKLAND, *ex officio* .	Durham.

STATION COUNCIL.

CHARLES S. MURKLAND, A. M., Ph. D., *President and Acting Director.*
FRED W. MORSE, B. S., *Chemist and Vice-Director.*
CHARLES H. PETTEE, A. M., C. E., *Meteorologist.*
HERBERT H. LAMSON, M. D., *Bacteriologist.*
CLARENCE M. WEED, D. Sc., *Entomologist.*
FRANK WILLIAM RANE, B. Ag., M. S., *Horticulturist.*
CHARLES W. BURKETT, M. S., *Agriculturist.*
FREDERIC S. JOHNSTON, B. S., *Associate Agriculturist.*

WILLIAM F. FISKE, *Assistant Entomologist.*
CLARENCE W. WAID, B. S., *Assistant Horticulturist.*
HAROLD A. CLARK, B. S., *Assistant Chemist.*
HARRY P. RICHARDSON, B. S., *Assistant Agriculturist.*
ROSCOE H. SHAW, B. S., *Assistant Chemist.*

PRIZE RECORD FOR 1898.

SMYTH PRIZES.

GIVEN BY HON. FREDERICK SMYTH.

Speaking:

1st. GRACE A. MARK.
2d. DAVID B. BARTLETT.
3d. { MARIE L. ROBERTSON.
ETTA L. SIMPSON.

Reading:

1st. HARRY W. EVANS.
2d. ELMER E. LYON.

BAILEY PRIZE.

GIVEN BY DR. C. H. BAILEY, OF GARDNER, MASS., AND E. A. BAILEY, B. S., OF KEENE.

HARRY E. BARNARD.

ERSKINE MASON MEMORIAL PRIZE.

ARTHUR Z. NORCROSS.

SENIOR STANDING HIGHEST IN THE MILITARY DEPARTMENT.

WILLIAM E. HUNT.

WINNER OF INDIVIDUAL PRIZE DRILL.

HARRY W. EVANS.

ENTRANCE EXAMINATION PAPERS.*

ALGEBRA.

1. Define algebra, term, factor, coëfficient, exponent, power, root, equation.

2. Find the prime factors of $x^6 + y^6$; $x^{-6} - y^{-6}$, and $x^{2m} + x^m - 2$.

3. Reduce $\frac{1}{a^{\frac{1}{3}}\ b^{\frac{1}{4}}\ c^{\frac{2}{7}}}$, $\frac{1}{\sqrt{a} + \sqrt{b}}$, $\frac{1}{a^{\frac{1}{2}} + b^{\frac{1}{5}}}$ to equivalent fractions having rational denominators.

4. $\frac{2}{ax} + \frac{3}{by} = 5$ and $\frac{5}{ax} - \frac{3}{by} = 2$. Solve for x and y.

5. Insert 2 geometric means between c and d.

6. Solve $\frac{1}{a + \sqrt{a^2 - x^2}} - \frac{1}{a - \sqrt{a^2 - x^2}} = \frac{a}{x^2}$.

7. Solve $3x - 2x^2 = 7$ for x.

ARITHMETIC.

1. $\frac{3\frac{1}{4} + 1\frac{1}{2} \div \frac{2}{3}}{6\frac{1}{2} - \frac{3}{4} \times \frac{4}{3}} = ?$ What is a fraction?

2. Find the least common multiple and highest common divisor of 8, 12, and 40.

3. Find the square root of 329.045.

4. At 3 cts. a pint how much would $1\frac{1}{4}$ bushels of peanuts cost?

5. How many ounces avoirdupois in 2 tons, 53 pounds?

6. $4.216 \times .004 \div .0005 - .000042$.

7. $1,000 includes a sum to be invested and a commission of 5 per cent of the sum to be invested. What is the sum to be invested?

8. Find the simple, annual, and compound interest of $200 for 3 years, 3 months, and 3 days at 6 per cent.

9. Define hectare, meter, kilometer, decimeter, decameter.

10. What is the weight in grams of 3 cubic decimeters of pure water under standard conditions?

* Given as specimens of average papers.

BOTANY.

1. What are the three principal parts of a plant, and what does each do for the plant?

2. What is the embryo; of what parts does it consist? Where does the root originate? What part of the root takes food material from the soil?

3. What are the principal steps or periods in the life history of a plant?

4. Define node, internode, petiole, peduncle, stipule, bract, axil of leaf, compound leaf.

5. Draw diagrams of the following leaves: (*a*) entire ovate; (*b*) lanceolate serrate; (*c*) lobed; (*d*) palmately cleft; (*e*) pinnately parted.

6. Draw diagrams of the following forms of inflorescence: raceme, spike, head, umbel, cyme.

7. Name five of the earliest blooming plants of New Hampshire and five which have their flowers in catkins.

8. To what families do the following plants belong: cucumber, peach, lettuce, cabbage, potato, corn, onion, celery, clover, strawberry?

9. How would you distinguish between an elm and an oak, a pine and a hemlock, an ash and a hickory.

10. What is the difference between a fruit and a seed?

ENGLISH.

The composition must be correct in spelling, grammar, and punctuation.

I.

Select any *four* of the following topics and write a short composition on each:

1. The Speech of Nestor.
2. The Death of Hector.
3. Expedition of Theseus against Thebes.
4. Sir Roger in Love.
5. Moses Primrose.

6. The Flight of Hepzibah and Clifford.
7. The Return of the Knight.
8. The Albatross and the Becalmed Ship.

II.

Omit *one.*

1. The Arguments Advanced in the Council of Pandemonium.
2. Macbeth and Lady Macbeth Compared.
3. Carlyle's Estimate of Burns.

FRENCH.

1. (*a*) Synopsis; first person singular, *vouloir;* third singular, *aller;* third plural, *finir.* (*b*) Principal parts, *faire, venir, mettre, voir, prendre.*

2. Give the feminine singular of the following adjectives: *vieux, beau, blanc, gros, doux.* Translate "a beautiful bird," "my old friend."

3. Translate (1) Have you given him any money? (2) This book is better than mine. (3) They lost their mother a week ago. (4) I have no sugar. (5) Give me this pen, if you please. (6) I shall see him tomorrow, and he will give it to me. (7) I fear that you will lose the money which I have given to you. (8) She has gone to Boston today, but she will be in Durham tomorrow. (9) The woman whom we have seen in the garden is very young. (10) He arrived in America June 4, 1899. (Write out the date.)

4. Translation of a page of easy French.

GRECIAN HISTORY.

1. Give an account of society in the heroic age.

2. Describe the people, government, and characteristics of Sparta.

3. Sketch the life of each of the following: Themistocles, Demosthenes, Pericles, Socrates.

4. Give an account of the battle of Marathon.

5. What were the circumstances, causes, and results of the formation of the confederacy of Delos?

6. Describe the Attic comedy.

7. Give an account of three engagements which took place at or near Platæa.

8. Locate and, with a sentence for each, describe the following: Eubœa, Sybaris, Corcyra, Naxos, Tyre, Thrace, Corinth, Delphi, Hellespont, Lydia.

PHYSICIAL GEOGRAPHY.

1. State briefly the causes of the change of seasons.

2. Describe the trade winds and the doldrums and describe the causes of each.

3. Why are west winds generally accompanied by fair weather in New Hampshire, while east winds generally bring rain?

4. Which portion of North America has climatic conditions nearly like those of (*a*) England, (*b*) Central Siberia, (*c*) Japan? Give reasons for your answers.

5. Describe the Gulf stream, its causes and its effects.

6. What are the boundaries of (*a*) the Atlantic slope, (*b*) the Mississippi basin, (*c*) the Pacific slope?

7. What portions of the world contain (*a*) the most active volcanoes, (*b*) the most geysers, (*c*) the most glaciers, (*d*) the highest mountains?

8. Give reasons for the importance of New Orleans as a seaport.

9. Why is Manchester, N. H., a manufacturing city?

PHYSICS.

1. What are the fundamental things about which we learn in the study of physics? Define: motion, acceleration, power, center of mass, temperature, reflection of light, a lens, the three qualities of sound.

2. (*a*) A boy weighing 110 pounds runs up a flight of steps, each step being one foot higher than the lower one. How many steps must he ascend per minute that in lifting his

own weight against gravity he may work at the rate of one horse-power?

(*b*) Explain why the balloon "goes up," as we say.

3. (*a*) Distinguish between heat and temperature.

(*b*) Tell what you can about boiling water.

(*c*) Give your reasons for preferring light-colored clothing in warm weather.

(*d*) A beam of light strikes a pane of glass at an angle of 45 degrees. What angle will it make with the pane on passing into the air again? Give the reasons for the answer.

5. Upon what does sound depend? What is an echo? Give the physical distinction between noise and music.

6. Upon what does the action of the compass depend, if its indications are to be relied upon? What is the theory of the thunder-storm?

PLANE GEOMETRY.

1. Define geometry, a point, a line, a surface, a solid, an angle, a theorem, a problem, an axiom, a corollary.

2. Theorem: Two angles whose sides are parallel each to each are either equal or supplementary.

3. Define a triangle, a quadrilateral, a trapezoid, a parallelogram, a rectangle, a rhombus, a rhomboid, a polygon, a hexagon, a diagonal of a polygon.

4. Theorem: The diagonals of a rhombus are perpendicular to each other, and bisect the angles of the rhombus.

5. Define a circle, radius, diameter, chord, tangent, secant, segment, area, a regular polygon, a proportion.

6. Problem: Find a point, X, in one side of a given triangle equidistant from the other two sides.

7. Theorem: An angle inscribed in a circle is measured by one half the arc intercepted within its sides.

8. Problem: Divide a given line into three parts proportional to 2, $\frac{3}{4}$, $\frac{1}{2}$.

ROMAN HISTORY.

1. What do we actually know about the early history of Rome?

2. What were the early Roman laws of debtor and creditor?

3. Give the history of the First Punic war.

4. Give a brief but comprehensive account of each of the following: Cæsar, Cicero, Catiline, Jugurtha, Sulla, Pyrrhus, Cleopatra, Mithridates, Vespasian.

5. Give an account of the founding of Constantinople.

6. State fully the causes of the decline of the Roman Empire.

7. Give the facts which bear upon Roman agriculture.

8. Locate and with a sentence for each describe the following: Pontus, Caucasus, Cyprus, Rhine, Rhone, Sicily, Adriatic, Armenia, Constantinople, Syracuse.

UNITED STATES HISTORY.

1. State the principal evidences that America had been visited by Europeans before the first voyage of Columbus.

2. Show by a map the territory in what is now the United States claimed in 1640 by each of the following nations: English, French, Spanish, Dutch, Swedish.

3. State the basis of the claim to American territory made by each of the nations mentioned in above question.

4. Give an account of King Philip's war.

5. Give an account of the French and Indian war.

6. Give a brief account of the adoption of the Constitution.

7. Give the causes and results of the Mexican war.

8. Give a brief account of each acquisition of United States territory.

9. Explain the three principal causes that first led the colonies to declare their independence.

10. Show the special importance of each of the three following battles: Bunker Hill, Long Island, Trenton, Oriskany, Eutaw Springs.

11. Write on two of the following topics concerning the Civil war: (*a*) Organization of the Confederate states; (*b*) relative condition of the Northern and Southern states as to readiness for war; (*c*) effects of the blockade on Southern ports; (*d*) importance of Sherman's march through Georgia.

ALGEBRA FOR PREPARATORY YEAR.

1. Define term, factor, coëfficient, exponent, power, equation.
2. Factor $a^2 - b^2$; $a^3 + b^3$; $x^2 + 2x - 3$.
3. Subtract $3\ ax^4 - 2\ xy^2$ from $-5\ ax^3 + \frac{1}{2}\ xy^2$
4. $x - 2y = 8$, and $3x + 4y = 7$. Solve for x and y.
5. Two men started at the same time from two points, A and B, 100 miles apart, traveling one at the rate of $9\frac{1}{2}$ miles an hour, the other at $9\frac{1}{4}$ miles an hour. In how many hours after starting did they meet, and how far from A.

ENGLISH FOR PREPARATORY YEAR.

Use great care. Divide into paragraphs. Marked inaccuracy in spelling, grammar, or composition will be considered as a failure.

For two years' course omit 8, 9, 10, and write upon one topic under 4-6.

1. Write a simple sentence containing eight or more words, and tell what part of speech each word is.
2. Write a complex sentence and a compound sentence. Explain the difference between them.
3. Give the third person singular of the verb "read" in all its moods and tenses, both in the active and passive voice.

4-6. Write fifty words upon each of the following:

(1) The war in the Philippines.
(2) Early New England.
(3) Industrial Education.

7. Correct the following, giving reason for each change:

you have only to turn up the Sod two find arrerheads and indian potery on an island: belonging too our host and nearly opposite his house. They loved to stay and no dout enjoyed its lavish buty as mutch as the pidgeons who hant Its shades.

8. What is rhetoric? Define trope, hyperbole, antithesis.
9. What is meant by the burden of proof? Where does it rest?
10. Give the meaning of satire, irony, parody, pun.

CATALOGUE OF GRADUATES.

BACHELORS OF SCIENCE.

NOTE.—The arrangement is: (*a*) Name in full. (*b*) Later degrees taken. (*c*) Residence at time of entering college. (*d*) Occupation, etc. (*e*) Present residence. *Dead. It is earnestly requested that each graduate inform the Secretary of the Faculty of any changes that should be made in this list.

1871.

William Preston Ballard, Concord. Farmer. *Concord.*
Lewis Perkins, Hampton. Railroad Contractor. *North Adams, Mass.*
Charles Henry Sanders, Penacook. Merchant. *Penacook.*

3—

1872.

Edwin Bartlett, Bath. Harness Business. *Larned, Kansas.*
Frank Alexander White, Bow. Farmer and Surveyor. *Bow. P. O. Box 431, Concord, N. H.*

2—

1873.

Frederick Erasmus Eldredge, Kensington.
James Fred Smith, A. M. (Dartmouth, 1885), Principal Iowa College Academy. *Grinnell, Iowa.*
Charles Henry Tucker, Plaistow. Woodworker. *24 Highland Street, Amesbury, Mass.*

3—

1874.

Millard Fillmore Hardy, Nelson. Graduated Theo. Inst., Ct., 1878. Clergyman. *Townshend, Vt.*
*Henry Abbott Sawyer, North Weare. Business.

2—*1

1875.

Walton Herman Aldrich, M. D. (Univ. N. Y. City, 1880), Troy. Physician. *Marlborough.*
Frank Pierce Curtis, Stoddard. Manager of Store. *Greenfield, Mass.*
Frank Veranus Emerson, Lebanon. Manager Emerson Edge Tool Co. *East Lebanon.*

Charles Webster Hardy, M. D. (Mo. Med. Coll., 1881), Marlborough. Physician. *Waterville, Kan.*

Harvey Jewell, Winchester. Butler & Jewell, Nurserymen and Fruit Growers. *Cromwell, Ct.*

*Charles Ormille Leavitt, Lebanon.

*John Loney McGregor, D. D. S. (Phila. Dental Coll., 1877), M. D. (Dartmouth, 1883), Whitefield. Physician.

Eliel Peck, Lebanon. Merchant. *Kimball, Minn.*

Ira William Ramsey, Walpole. Farmer. *Walpole.*

Orlando Leslie Seward, Keene. Architect. *Keene.*

Emery Mason Willard, Harrisville. Druggist, with G. S. Cheney & Co., 15 Union St., Boston, Mass.
109 Hewlett St., Roslindale, Mass.

11—*2

1876.

Herbert Cyril Aldrich, Troy. Insurance and Real Estate. *Keene.*

Edmund Lawson Brigham, Jaffrey. Mechanic. *Clinton, Mass.*

Joseph Warren Butterfield, Westmoreland. Farmer. *North Montpelier, Vt.*

Arthur Frank Chamberlain, Westmoreland. General Salesman for Michigan. Edson, Keith & Co., Chicago.
6542 Kimback Ave., Chicago, Ill.

Anson Ballard Cross, Holyoke, Mass. Railroad Contractor, with Vandegrith & Jacobs, Philadelphia. *Wilmington, Vt.*

Warren Webster Kimball, Troy. E. P. Kimball & Son, General Store. *Troy.*

Daniel Deeth Parker, Fitzwilliam. Manufacturer. *Gardner, Mass.*

7—

1877.

Rollin Kirk Adair, Indian Territory. Farmer. *Locust Grove, Cherokee Nation, Indian Ter.*

*Homer Brooks, M. D. (N. Y. Hom. Med. Coll., 1881), Franconia.

John Washington Carson, Mont Vernon. Farmer. *Francestown.*

*Charles Otto Chubert, Troy.

*Charles Albert Edwards, LL. B. (State Univ., Iowa, 1880), Keene. Lawyer.

William Francis Flint, Richmond. Surveyor, Fruit Grower, and Forestry Expert. *Winchester.*

Clinton Camillus Hall, Westmoreland. Farmer. *East Westmoreland.*

John Goodrich Henry, M. D. (Dartmouth, 1880), Chesterfield. Physician. *Winchendon, Mass.*

Charles Pitkin Hollister, North Montpelier, Vt. Farmer. *North Montpelier, Vt.*

George Mirick Holman, M. D., Fitchburg, Mass. Chemist. *Fitchburg, Mass.*

Charles Appleton Hubbard, Troy. Comptroller of the Oregon Short Line Railroad Company, Boston. *Newton Center, Mass.*

Charles Augustus Wheeler, East Calais, Vt. Farmer and Bee Keeper. *Bracken, Corral Co., Texas.*

Everard Whittimore, Fitzwilliam. Agent, New York Life Insurance Co. *Hudson, Mass.*

13—*3

1878.

Ezra Eastman Adams, Manchester.

*Elmer Kilburn, Marlow. Civil Engineer.

Charles Edward Record, Fitchburg, Mass. Contractor and Builder. *Leominster, Mass.*

3—*1

1879.

Charles Hardy Bailey, M. D. (Dartmouth, 1881). Physician. *39 East Broadway, South Gardner, Mass.*

Richard Clinton Chapin, Chicopee, Mass. Manager of Nonotuck Paper Company. *Holyoke, Mass.*

Lucius M. Cragin, Lempster. Farmer and Surveyor. *Springfield, Vt.*

*Nathaniel Cutter Holmes, Jaffrey. Lawyer.

Fred Charles Parker, Lempster. Merchant. *Acworth.*

George Henry Wilkins, M. D. (N. Y. Hom. Med. Coll., 1883), Amherst. Physician. *Palmer, Mass.*

6—*1

1880.

Charles Harvey Hood, Derry. Milk Contractor. H. P. Hood & Sons, Boston, Mass. *20 Highland Ave., Somerville, Mass.*

1—

1881.

Edwin Thomas Aldrich, Troy. With G. H. Aldrich & Son, General Insurance Agents. *Keene.*

Henry Lyman Barnard, Troy. Clerk. *Troy.*

*George Jordan Boardman, Lawrence, Mass.

Edwin Franklin Bristol, Harwinton, Conn. Farmer and Mill Owner. *Ascutneyville, Vt.*

Artemas Terald Burleigh. Farmer. *Franklin.*

Frank Dana Ely, Cavendish, Vt. Business. *Cavendish, Vt.*

Sanford Eugene Emery, LL. B. (Albany Law School, 1886), Proctorsville, Vt. Lawyer. Postmaster. *Proctorsville, Vt.*

Charles Herbert Hazen, Hartford, Vt. Farmer and Fruit Grower. *Wingroad.*

Frank Marston, Hartford, Vt. Merchant. *Olcott, Vt.*

William Augustus Megrath, M. D. (Dartmouth, 1885), Cavendish, Vt. Physician. *Loudon.*

Fred Townsend Stanton, Strafford. Farmer. *Strafford Corner.*

Victor Hugo Stickney, M. D. (Dartmouth, 1883), Tyson, Vt. Physician. President Electric Power & Coal Co. Vice-President First National Bank. *Dickinson, N. Dak.*

Samuel Austin Wallace, Ph. G. (Boston School of Pharmacy, 1886), West Hartford, Vt. Druggist. *Crookston, Minn.*

George Herbert Whitcher, Strafford. Professor of Agriculture and Director of Experiment Station (1887-'94). Real Estate and Insurance. *Durham.*

14—*1

1882.

Harvey Lincoln Boutwell, LL. B. (Boston Univ., 1886), Hopkinton. Lawyer, 209 Washington St., Boston. *37 Peirce St., Malden, Mass.*

Dana Justin Bugbee, North Pomfret, Vt. Mining in Colorado. *North Pomfret, Vt.*

Robert Fletcher Burleigh, M. D. (Dartmouth, 1887), Franklin. Physician. *Rochester.*

La Forrest John Carpenter, Surry. *Cliff St., Malden, Mass.*

Edwin Preston Dewey, Hanover. Civil Engineer. U. S. Deputy Mineral Surveyor. *Pasadena, Cal.*

George Andrew Loveland, LL. B. (Univ. of N. Y., 1886), Norwich, Vt. Section Director, U. S. Weather Bureau. *Lincoln, Neb.*

John Wright Mason, Hanover.

Harlan Addison Nichols, Derry. County Physician. *Fort Stockton, Texas.*

*Frank Elmer Thompson, Stark. Vice-President and Treasurer, Blackwater Lumber Co.

9—*1

1883.

Elmore Ferdinand Arnold, M. D. (Univ. City of N. Y., 1885), Londonderry, Vt. Physician. *New York, N. Y.*

Frank Landor Bigelow, Proctorsville, Vt. Instructor in Mathematics and Sciences, Goddard Seminary, Barre, Vt., 1883-'86. Business. *Rutland, Vt.*

Frederick Stocks Birtwhistle, Troy. Electrical Engineer, Foreign Dept., General Electric Co., 44 Broad St., New York. *Troy.*

Noice D. Bristol, Hawinton, Conn. Scenic Photographer. *176 Euclid Ave., Cleveland, O.*

Frederick Plummer Comings, Lee. Trustee 1891—. Principal High School, South Yarmouth, Mass. *Lee.*

Frank Harry Follansbee, Canaan. Railway Mail Clerk. *Enfield.*

Adams Clark French, Franklin Falls.

James Edgar Gay, Tunbridge, Vt. Partner, Gay Brothers Cavendish Woolen Mills. *Cavendish, Vt.*

Elmer Daniel Kelley, Franklin Falls. Farmer and Market Gardener. *Franklin Falls.*

Alvah Benjamin Morgan, Canaan.

William Lincoln Whittier, Deerfield. Farmer and Mechanic. *Deerfield Center.*

Charles Minot Woodward, Hanover. Instructor in Agriculture, 1883-'84. Teacher of Science, High School. *Corsicana, Tex.*

12—

1884.

*Ernest Smith Cummings, Lee. U. S. Signal Service.

Fred Carlos Davis, South Reading, Vt. Lawyer. Clerk and Attorney Springfield Electric Railway Co. *Springfield, Vt.*

Sylvester Miller Foster, Riverhead, N. Y. With N. W. Foster & Son, General Insurance Agents. Secretary Suffolk County Agricultural Society. Secretary and Treasurer Riverhead Coal Co. *Riverhead, N. Y.*

Herbert Harvey Kimball, Hopkinton. Clerk U. S. Weather Bureau. *Washington, D. C.*

Moses Bisbee Mann, Benton. Custom House Official. *11 Hancock St., Malden, Mass.*

George Milton Moore, Plymouth, Vt. Insurance Agent. *Ludlow, Vt.*

Ziba Amherst Norris, Lyme. Norris Bros., Groceries and Provisions, 1673 Washington St., Boston. *1673 Washington St., Boston, Mass.*

Edwin Chapin Thompson, Lee. Observer in charge U. S. Weather Bureau. *Sandusky, Ohio.*

8—*1

1885.

George Ellsworth Adams, Weston, Vt. Merchant. *Vernal, Utah.*

Ruel Seabury Alden, Lyme. Superintendent of College Farm, 1895-'97. Farmer. *Concord.*

Walter Eugene Angier, C. E. (Dartmouth, 1887), West Swanzey. Assistant Engineer Illinois Central Railroad.
1 Park Row, Chicago, Ill.

Edward Alonzo Bailey, West Swanzey. With George Holbrook & Co. *Keene.*

Phillips Greenleaf Bickford, Lyme.

Andrew Walter Brill, Riverhead, L. I. Seedsman and Florist.
Hampstead, Queens Co., N. Y.

Paul Cuff Brooks, Boston, Mass.

Frank Jay Emerson, Epping. Clerk, Great Falls House.
Somersworth.

Allen Hazen, Wilder, Vt. Consulting Engineer.
St. Paul Building, 220 Broadway, N. Y.

George Mayo Mullens, Londonderry. Farmer.
North Londonderry.

Albert Henry Wood, Lebanon. Associate Professor of Agriculture, 1890-94. Grain Merchant. *Framingham, Mass.*

11—

1886.

Frank Albert Davis, M. D., Boston University School of Medicine, 1898, South Lee. Physician and Surgeon.
41 West Newton St., Boston, Mass.

James Ellsworth Harvey, Surry. Photographer. *Clinton, Mass.*

Belezar Stoianoff Ruevsky, Sistova, Bulgaria. Professor in State Commercial School. *Sistova, Bulgaria.*

Madison Templeton Thurber, M. D. (Dartmouth, 1890), Webster. Physician. *95 Savin Hill Ave., Dorchester, Mass.*

Edward Hills Wason, New Boston. Lawyer. *Nashua.*

George Pillsbury Wood, Lebanon. Civil Engineer. City of Baltimore Topographical Survey.
922 Equitable Building, Baltimore, Md.

6—

1887.

William Sprague Currier, Norwich, Vt. In charge U. S. Weather Bureau Office. *Toledo, Ohio.*

Arthur Woodbury Hardy, C. E. (Dartmouth, 1889), Hopkinton. Civil Engineer, with Lieut. Col. A. M. Miller.
2729 Pennsylvania Ave., Washington, D. C.

George Albert Sanborn, Rochester. Agent Grand Union Tea Company. *Rochester.*

Hiram Newton Savage, White River Junction, Vt. Member Am. Soc. C. E.;Engineer in Charge Sweetwater Dam Irrigation and Domestic Water System; Chief Engineer San Diego Land and Town Co.; Chief Engineer, National City and Otay Railway Co. *National City, Cal.*

Bion Leland Waldron, Strafford. Weather Bureau. *Louisville, Ky.*

5—

1888.

Melvin Burnside Carr, North Haverhill. With West End Street R. R., General Power Station. *Boston, Mass.*

Herbert Grant Davis, South Lee. Electrical Engineer, Woburn Electric Light Co. *Woburn, Mass.*

Edwin Chandler Gerrish, Webster. Assistant Paymaster for Proprietors of the Locks and Canals on Merrimack River. *Lowell, Mass.*

William Nelson Hazen, C. E. (Dartmouth, 1890), Hartford, Vt. Designing Engineer, Berlin Iron Bridge Co. *East Berlin, Ct.*

Edward David O'Gara, Hanover. Farmer. *Hanover.*

George Elmer Porter, M. D. (Dartmouth, 1892), Hartford, Vt. Physician. *Marengo, Wayne Co., N. Y.*

George Jonathan Sargent, Canterbury. Civil Engineer. *39 No. Main St., Concord.*

John Warren Smith, Grafton. Observer U. S. Weather Bureau. *Columbus, Ohio.*

George Elwin Walker, Littleton. Farmer. *Littleton.*

9—

1889.

Fred Harvey Colby, Hopkinton. Fruit Grower. *Prosser, Wash.*

Linwood Carroll Gillis. Editor and Publisher "Hanover Gazette." *Hanover.*

*Louis Jerome Hutchinson. Norwich, Vt. Electrician.

John Lawrence Norris, Lyme. Norris Bros., Groceries and Provisions, 1673-1679 Washington St., Boston. *6 Worcester Sq., Boston, Mass.*

Charles Walter Earl Scott, Winchester. *Winchester.*

David Elmer Stone, Hartford, Vt. Grain Merchant. *South Framingham, Mass.*

Fred Washburne, West Springfield. Foundry Dept. The Sargent Co., New Haven. *96 Chapel St., New Haven, Ct.*

7—*1

1890.

John Young Jewett, C. E. (Dartmouth, 1895), Gilford. Civil Engineer, Dam and Aqueduct Dept., Metropolitan Water Board, Boston. *11 Prescott St., Clinton, Mass.*

Joseph Franklin Preston, Hanover. Clerk. *Boston, Mass.*

Elihu Quimby Sanborn, Webster. Machinist. *Contoocook.*

Clarence Ira Slack, Norwich, Vt. With Vermont Marble Co. *West Rutland, Vt.*

4—

1891.

Ernest Gowell Cole, Hampton. Partner E. G. Cole & Co., Hampton, N. H. *Hampton.*

Russell Marden Everett, Chester. Teacher of Mathematics, Broaddus Classical and Scientific Institute. *Clarksburg, W. Va.*

Edward Payson Stone, Canaan Center. Chemist, Magnolia Plantation, Lawrence, La. *Canaan Center.*

3—

1892.

Percey Lovejoy Barker, C. E. (Dartmouth, 1894), Milford. Civil Engineer Boston & Maine R. R.
16 Bancroft St., Worcester, Mass.

Fred Driggs Fuller, Hanover. Assistant Chemist, New York Agricultural Experiment Station.
14 Elmwood Ave., Geneva, N. Y.

Arthur Bennerzett Hough, Lebanon. Farmer. *Lebanon.*

Edward Munroe Stone, C. E. (Dartmouth, 1894), Marlborough. Civil Engineer. With Henry A. Wolcott.
49 Pearl St., Hartford, Ct.

4—

1893.

Wilton Everett Britton, Keene. Horticulturist, Connecticut Agricultural Experiment Station.
801 Orange St., New Haven, Ct.

Frank John Bryant, Enfield. Teacher. *Lebanon.*

Charles Elbert Hewitt, M. M. E. (Cornell, 1895), Hanover. Member of firm of Sheehan & Hewitt, Electrical Engineers.
123 Third St., Newburgh, N. Y.

Charles Lincoln Hubbard, M. E. (1895), Fitzwilliam. Heating and Ventilating Engineer, 4 P. O. Sq., Boston. *Needham, Mass.*

Orrin Moses James, Northwood. Civil Engineer.
Northwood Narrows.

Arthur Whitmore Smith, M. S. (Wesleyan Univ., 1895), Norwich, Vt. Expert Physical Assistant in Nutrition Investigations, in the Office of Experiment Stations, in the U. S. Dept. of Agriculture, and Assistant in Physics, Wesleyan University.
Middletown, Ct.

6—

1894.

Bert Sargent Brown, Hanover. Foreman. *St. Johnsbury, Vt.*

Fred Willis Gunn, Keene. Electrician, Fall Mountain Paper Co.
Bellows Falls, Vt.

Frederick William Howe, Hollis. Professor of Chemistry.
State Normal School, Framingham, Mass.

3—

1895.

Frank Stanley Adams, Gilsum. With Vermont Farm Machine Co. *Bellows Falls, Vt.*

Frank Clifton Britton, Keene. Manager of Creamery. *Belchertown, Mass.*

Henry Elmer Hill, Plainfield, Vt. Farmer. *Dickinson, N. D.*

Charles Arthur Trow, Mt. Vernon. 2d Regiment U. S. Volunteer Engineers.

4—

1896.

Lewis Harris Kittredge, Keene. *Cleveland, Ohio.*

1—

1897.

Harlan Winifred Barney, Grafton. Express Agent. *Manchester.*

Carrie Augusta Bartlett, Lee. Teacher. *Lee.*

Mary Blaisdell Bartlett, Epping. Teacher. *7 North Ave., Attleboro, Mass.*

Walter French Buck, Manchester. Teacher of Science. *Leominster, Mass.*

Arthur Willard Colburn, Dracut, Mass. Farmer. *Dracut, Mass.*

Carrie Lydia Comings, Durham. Teacher. *Durham.*

Irving Lyford Dennett. Erecting Engineer, with Westinghouse, Church, Kerr & Co. *Pittsburg, Pa.*

Mrs. Irving L. Dennett (*nee* Comings), Durham. *Pittsburg, Pa.*

Elwin Henry Forristall, Columbia. Foreman on Farm of Walker Gordon Infant Food Co. *Boston, Mass.*

Leslie David Hayes, Durham. Instructor in Manual Training. *Minneapolis, Minn.*

John Norton Hunt, Peterborough. Machinist. *Marlboro, Mass.*

Ellery Dunbar Jenkins, Lee. Chemist of Lowell Fertilizer Co. *Lowell, Mass.*

Woodruff Mason, Stamford, Ct. Medical Student, Columbia University. *New York, N. Y.*

Roscoe Hart Shaw, Milton. Assistant Chemist, Experiment Station. *Durham.*

Charles William Vickery, Dover. Bank Clerk. *Dover.*

Delbert Amos Wheeler, South Ashburnham, Mass. Teacher. *Rye, N. H.*

Everett Sidney Whittemore, Colebrook. Farm Superintendent. *Concord, Mass.*

17—

1898.

*Richard Cole Butterfield, Westmoreland.
Helen Buzzell, Lee. Post-Graduate Student, N. H. College. *Durham.*
Bernice Elizabeth Caverno, Lee. Teacher. *Lee.*
Burton Albert Corbett, Colebrook. Farmer. *Colebrook.*
Alfred Caverly Durgin, Lee. Farmer. *Lee.*
James Alfred Foord, Walpole. Traveling Agricultural Superintendent of Erie Preserving Co. *Fenton, N. Y.*
John William Fullerton, Somersworth. Bookkeeper. *Somersworth.*
Arthur Given, Durham. American Wire & Steel Co., Quinsigamond Works. *Worcester, Mass.*
Edward Henry Hancock, Belmont. With General Electric Co. *Lynn, Mass.*
Mabel Lucy Hayes, Durham. Teacher in High School. *Willimantic, Conn.*
Tomokichi Hirokawa, Iamabari, Japan. Student Mass. Institute of Technology. *Boston, Mass.*
Harry Clinton Mathes, Newmarket. Business. *112 Washington St., Dover.*
Herbert Fisher Moore, Penacook. Instructor in Science Colby Academy. *New London.*
Gerry Austin Morgan, Goffstown. Machinist with Taft Pierce Mfg. Co. *Woonsocket, R. I.*
Harry Putnam Richardson, Milford. Assistant in Agriculture, N. H. C. Experiment Station. *Durham.*
Fred Dexter Sanborn, Ashland. *Ashland.*
Fred Webster Smith, Franklin Falls. Foreman in Woolen Mills. *Franklin Falls.*
Benjamin D. Tolles, Somersworth. Machinist. *Somersworth.*

18—1*

1899.

Harry Clark Baker, South Yarmouth, Mass. With General Electric Co. *12 Sachem St., Lynn, Mass.*
Harry Everett Barnard, Nashua. Assistant Chemist in the Private Laboratory of Dr. Gibbs. *Newport, R. I.*
Harrison Edward Clement, Nashua. Mining. *Gem, Id.*
Irving Atwell Colby, Exeter. Instructor in Woodwork, N. H. College. *Durham.*
Willis Daniel Farley Hayden, Hollis. Superintendent of Dairy Herd, N. H. C. Farm. *Durham.*
Frederick Libbey Horton, Dover. *Dover.*
William Elmer Hunt, Nashua. Second Lieutenant, Nineteenth Infantry, U. S. A. *Manila, Philippine Islands.*

Lewis Hobert Kenney, Pownal, Me. *Pownal, Me.*
Grace Agnes Mark, Gilsum. *Gilsum.*
Arthur Zebulon Norcross, Rindge. Superintendent of Farm. *Peekskill, N. Y.*
Harry Nelson Putney, Franklin. Machinist with Mayo Machine Co. *Franklin.*
Etta Lillian Simpson, Durham. *Durham.*

12

TWO YEARS' COURSE IN AGRICULTURE.

Lyman Charles Stratton, Hollis. (1897.) Superintendent of Dairy Farm. *Brightwood, D. C.*
Charles Wesley Martin, Durham. (1898.) Gardener. *Durham.*
George Henry Wheeler, Temple. (1898.) Farmer. *Temple.*

SUMMARY.

Graduates, Bachelors of Science, 1871-'99, inclusive	204
Graduates, Two Years' Course	3
Agriculturists	35
Architects	1
Business pursuits	52
Chemists	8
Clergyman	1
Civil, Mechanical, Electrical, and Mining Engineers	22
Lawyers	6
Manufacturers and Mechanics	15
Physicians	14
Post-Graduate Students	3
Teachers	19
Unknown	20
United States Army	2
United States Weather Bureau	7
Twice classified	1
Dead	13

CALENDAR

1899

JULY.

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AUGUST.

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SEPTEMBER.

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OCTOBER.

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NOVEMBER.

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DECEMBER.

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1900

JANUARY.

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FEBRUARY.

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MARCH.

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APRIL.

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MAY.

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JUNE.

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JULY.

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AUGUST.

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OCTOBER.

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NOVEMBER.

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DECEMBER.

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30	31					

COLLEGE CALENDAR.

1899.

Sept. 7. First term of fifteen weeks began—Thursday morning.
Dec. 20. First term ends—Wednesday night.

WINTER VACATION OF THREE WEEKS.

1900.

Jan. 11. Second term of ten weeks begins—Thursday morning.
March 21. Second term ends—Wednesday night.

SPRING VACATION OF ONE WEEK.

March 29. Third term of ten weeks begins—Thursday morning.
June 4-5. Examinations for admission begin—Monday at 9 A. M.
June 5. Annual examinations close—Tuesday noon.
June 5. Smyth Prize Reading and Speaking—Tuesday evening.
June 6. Commencement—Wednesday.

SUMMER VACATION OF THIRTEEN WEEKS.

Sept. 4-5. Examinations for admission begin—Tuesday at 9 A. M.
Sept. 6. First term of fifteen weeks begins—Thursday morn'g.
Dec. 19. First term ends—Wednesday night.

WINTER VACATION OF THREE WEEKS.

1901.

Jan. 10. Second term of ten weeks begins—Thursday morning.
March 20. Second term ends—Wednesday night.

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CATALOGUE

of the

NEW HAMPSHIRE COLLEGE

of

AGRICULTURE AND THE MECHANIC ARTS

1900--1901

CONANT HALL. SHOPS. BARN.

COLLEGE BUILDINGS LOOKING NORTHWEST.

THOMPSON HALL. GREENHOUSES. CONANT HALL. SHOPS.

COLLEGE BUILDINGS LOOKING SOUTHEAST.

JCL.

CATALOGUE

OF THE

NEW HAMPSHIRE COLLEGE

OF

AGRICULTURE AND THE MECHANIC ARTS

1900 - 1901

MANCHESTER, N. H.
ARTHUR E. CLARKE, PUBLIC PRINTER.
1900.

BOARD OF TRUSTEES.

Hon. GEORGE A. WASON, New Boston, *President.*
His Excellency Gov. FRANK W. ROLLINS, *ex officio.*
Pres. CHARLES S. MURKLAND, Durham, *ex officio.*
CHARLES W. STONE, A. M., East Andover.
LUCIEN THOMPSON, Durham, *Secretary.*
Hon. JOHN G. TALLANT, Pembroke.
FREDERICK P. COMINGS, B. S., Lee.
GEORGE B. WILLIAMS, Walpole.
Hon. WARREN BROWN, Hampton Falls.
ROSECRANS W. PILLSBURY, Londonderry.
HARRY W. KEYES, A. M., Haverhill.
RICHARD M. SCAMMON, Stratham.
JAMES E. SHEPARD, New London.

Hon. WALTER M. PARKER, Manchester, *Treasurer.*

CATALOGUE.

FOUNDATION AND ENDOWMENT.

At the session of the legislature of New Hampshire in 1866, an act was passed establishing the "New Hampshire College of Agriculture and the Mechanic Arts," on the basis of the congressional land grant, and authorizing its location in Hanover and in connection with Dartmouth College.

In accordance with this act, the institution was organized under a board of trustees appointed partly by the governor and council and partly by the corporation of Dartmouth College.

The act of Congress, by virtue of which it was established, provides that its "leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

An act of Congress, approved August 30, 1890, provides an additional appropriation, which for the current year is twenty-five thousand dollars. This money is to be applied "to instruction in Agriculture, the Mechanic Arts, the English Language, and the various branches of Mathematical, Physical, Natural, and Economic Science, with special reference to their applications in the industries of life, and to the facilities for such instruction."

At the session of the legislature of New Hampshire in 1891, acts were passed severing the connection with Dartmouth College, removing the New Hampshire College from Hanover to Durham, accepting the Benjamin Thompson estate, and providing one hundred thousand dollars to be used with certain other sums in the erection of buildings.

The Benjamin Thompson estate was then of the value of about four hundred thousand dollars. Accumulating at four per cent compound interest, it will be available as an endowment in 1910.

At the session of the legislature of New Hampshire in 1893, an act was passed appropriating thirty-five thousand dollars for completing and furnishing the buildings. These buildings have been finished, furnished, and supplied with apparatus. The New Hampshire College has completed the seventh year of work in its new location.

The college is carrying out the provisions of the acts of Congress, by giving a practical and scientific education which is of use in all the professions and industrial pursuits, by means of the following courses of study:

1. Courses in Agriculture:
   - A. Four Years' Course.
   - B. Two Years' Course.
   - C. Ten Weeks' Winter Course.
   - D. Ten Weeks' Dairy Course.

2. Courses in the Mechanic Arts:
   - A. Mechanical Engineering Course.
   - B. Electrical Engineering Course.
   - C. Technical Chemistry Course.

3. General Course.

FACULTY.

CHARLES S. MURKLAND, A. M., Ph. D., D. D., *President and Professor of English Language and Literature.*

CHARLES H. PETTEE, A. M., C. E., *Dean and Professor of Mathematics and Civil Engineering.*

CLARENCE W. SCOTT, A. M., *Professor of History and Political Economy.*

FRED W. MORSE, M. S., *Professor of Organic Chemistry.*

CHARLES L. PARSONS, B. S., *Professor of General and Analytical Chemistry.*

CLARENCE M. WEED, D. Sc., *Professor of Zoölogy and Entomology.*

FRANK WILLIAM RANE, B. Ag., M. S., *Professor of Horticulture.*

CHARLES WILLIAM BURKETT, M. Sc., Ph. D., *Professor of Agriculture.*

CARLETON A. READ, B. S., *Professor of Mechanical Engineering.*

VICTOR E. STOTTLER, Captain, U. S. Army, Retired, *Professor of Military Science and Tactics.*

HERBERT H. LAMSON, M. D., *Associate Professor of Botany.*

ARTHUR F. NESBIT, A. M., B. S., *Associate Professor of Physics and Electrical Engineering.*

JOSEPH H. HAWES, *Associate Professor of Drawing.*

RICHARD WHORISKEY, Jr., A. B., *Assistant Professor of Modern Languages.*

FREDERIC S. JOHNSTON, B. S., *Assistant Professor of Agriculture.*

JOHN N. BROWN, *Instructor in Machine Work.*

IRVING A. COLBY, B. S., *Instructor in Wood Work.*

WINFRED W. BRAMAN, B. S., *Instructor in Chemistry.*
IVAN COMINGS WELD, *Instructor in Dairying.*
CLARENCE W. WAID, B. S., *Assistant in Horticulture.*
HARRY P. RICHARDSON, B. S., *Assistant in Agriculture.*
MARION IMES, M. S., *Assistant in Dairying and Veterinary Science.*
EDWARD H. HANCOCK, B. S., *Engineer and Curator of Buildings.*
FREDERICK C. KEITH, *Purchasing Agent.*

THOMPSON HALL.

JCL.

STUDENTS.

a—Agricultural Course; *c*—Course in Technical Chemistry; *e-e*—Electrical Engineering Course; *g*—General Course; *m-e*—Mechanical Engineering Course. Sophomores and Juniors in the Engineering Courses are designated by *e* only. Freshmen are not classified in courses.

POST GRADUATES.

Name.	Residence.	Subject.
Bartlett, Mary Blaisdell, B. S.	*Epping.*	Biology.
Dearborn, Ned, M. S.	*Durham.*	Biology.

SENIORS.

Name.	Residence.	Room.
Calderwood, Henry Harold *e e*	*Nashua.*	The Nashuway.
Courser, Charles Henry *m e*	*Warner.*	The Nashuway.
Dorr, Alice Emerson *g*	*Dover.*	Mr. Hancock's.
Evans, Harry Willis *e e*	*Portsmouth.*	Mr. Sawyer's.
Farwell, Harry Gilbert *e e*	*Keene.*	Mrs. H. A. Mathes's.
Gowen, Ella Gertrude *g*	*Dover.*	Dover.
Hunt, Charles Lund *c*	*Nashua.*	The Nashuway.
Jewett, Edwin Price *a*	*Lakeport.*	Nesmith Hall.
Keown, Robert McArdle *m e*	*Pomona, Fla.*	Thompson Hall.
Lyon, Elmer Eugene *g*	*Wentworth.*	The Nashuway.
Penneo, George Jay *a*	*Hampstead.*	Mr. Caverno's.
Runlett, Harold Morrison *g*	*Durham.*	Mr. Runlett's.
Straw, Edson Albert *a*	*Pittsfield.*	

JUNIORS.

Name.	Residence.	Room.
Gilmartin, Edwin W *e*	*Nashua.*	The Nashuway.
Kendall, John Chester *a*	*Peterborough.*	Durham Club.
Lee, Harry Moulton *a*	*Moultonborough.*	Q. T. V. Hall.
Lewis, Rutherford Burchard *e*	*New York, N. Y.*	Mr. A. Meserve's.
Livermore, Abiel Abbott *a*	*Wilton.*	The Nashuway.
Payne, Charles Albert *e*	*Portsmouth.*	The Nashuway.
Runlett, Eugene Pierce *a*	*Durham.*	Mr. Runlett's.
Sullivan, Arthur Lyon *a*	*Suncook.*	Mr. A. Meserve's.

SOPHOMORES.

Name.	Residence.	Room.
Batchelor, Harry David *c*	*West Upton, Mass.*	Dr. Grant's.
Bickford, Edgar Forrest *e*	*Rochester.*	Thompson Hall.
Brown, Frank Ray *e*	*Durham.*	Mr. Brown's.
Burbeck, Everett William *e*	*Haverhill.*	The Nashuway.
Davis, Everett Garfield *a*	*Newmarket.*	Newmarket.
Church, John Edwin *e*	*Durham.*	Mr. Runlett's.
Doe, Mary *g*	*Salmon Falls.*	Salmon Falls.
Hill, Frank Lester *a*	*Amherst.*	Q. T. V. Hall.
Merrill, George Enoch *a*	*Newburyport, Mass.*	Q. T. V. Hall.
Otis, Albert Noah *e*	*Durham.*	Mrs. Hadley's.
Rollins, Ralph Harvey *e*	*Concord.*	Q. T. V. Hall.
Sargent, Carl Linwood *g*	*Penacook.*	Nesmith Hall.
Stewart, Morris Archer *c*	*Dover.*	Mrs. Davis's.
Snell, Elizabeth Gertrude *g*	*Lee.*	Mr. H. B. Snell's.
Watson, David Albert *a*	*Durham.*	Mr. Watson's.
White, Melvin Johnson *g*	*Farmington.*	Q. T. V. Hall.
Wiggin, Howard Moody *a*	*Stratham.*	Nesmith Hall.

FRESHMEN.

Name.	Residence.	Room.
Ashton, Leander	*Pittsfield.*	Mrs. Davis's.
Barker, Walter Allen	*Pittsfield.*	Mr. A. Meserve's.
Berry, Elverton C.	*Farmington.*	
Bickford, Edgar Charles	*Suncook.*	Mrs. Mathes's.
Bowley, Charles L.	*Milton, Mass.*	
Bradford, Baury DeBellerive	*Portsmouth.*	Mr. A. Meserve's.
Campbell, Percy Anderson	*Litchfield.*	The Nashuway.
Carleton, Walter Edward	*Dover.*	
Cilley, Joseph	*Nottingham.*	Dr. Grant's.
Conner, Alfred	*Newfields.*	Dr. Grant's.
Comeau, Alphy Joseph	*Durham.*	Mrs. Davis's.
Cushman, Robert Asa	*Worcester, Mass.*	The Nashuway.
Elliot, Nicholas	*Exeter.*	Exeter.
Folsom, William Charles	*Newmarket.*	Newmarket.
Fuller, Arthur Levi	*Marlborough Depot.*	Q. T. V. Hall.
Goodrich, Joseph Ezra	*New Durham.*	Whitcher's Blk.
Gray, George William	*Dover.*	
Hadley, Frank Lurling	*Durham.*	Mrs. Hadley's.
Hill, George Herbert	*Pittsfield.*	Mr. C. E. Hayes's.
Hobbs, Henry Bailey	*Hampton.*	Mr. Keith's.
Jewett, Reginald Sise	*Portsmouth.*	Mrs. J. E. Thompson's.
Laton, Thomas Jefferson	*Nashua.*	The Nashuway.
Littlefield, Erwin Melvin	*Dover.*	Mrs. Davis's.

Lord, Ethel Stone	*South Berwick, Me.*	South Berwick.
Low, William	*Rockport, Mass.*	Mrs. Mathes's.
Lunt, Raymond Louis	*Dover.*	Dover.
MacMurtry, Friend Alonzo	*Middlebury, Vt.*	Mrs. Wright's.
Marsh, Levi Joseph	*Pelham.*	Mrs. Waterhouse's.
Merrill, Arthur Ronello	*N. Bridgton, Me.*	Mrs. Sanders's.
Peabody, Harry Eugene	*Pittsfield.*	Q. T. V. Hall.
Pearson, Robert Hale	*Webster.*	The Nashuway.
Pickering, Fred Roberts	*Barnstead.*	Mr. A. Meserve's.
Patten, Louis Carroll	*Candia.*	Dr. Grant's.
Richardson, Samuel Ambrose	*Charlestown.*	Mr. Stevens's.
Rochemont, Percy Ellis de	*Newington.*	Dr. Grant's.
Tasker, Frederick Alerande	*Intervale.*	Q. T. V. Hall.
Towle, John Moulton	*Newmarket.*	Newmarket.
Towle, Robert Duncan	*Westfield, Mass.*	Newmarket.
Tuttle, Charles Leo	*Exeter.*	Exeter.
Waterhouse, Fred Joseph	*Barrington.*	Mrs. Waterhouse's.
Whittemore, Byron	*Pittsfield.*	Mrs. Davis's.

PREPARATORY STUDENTS.

Name.	Residence.	Room.
Blodgett, Joseph French	*Hebron.*	Hoitt House.
Blood, Fred Albert	*Somersworth.*	Mrs. Davis's.
Chesley, John Henry	*Rockingham.*	Dr. Grant's.
Dearborn, Jenness Stevens	*Suncook.*	Mr. A. Meserve's.
Estrada, Benito Rodriguez	*Puerto Principe, Cuba.*	Nesmith Hall.
George, Henry Clinton	*Newmarket.*	Newmarket.
Hall, Erie Earle	*East Barrington.*	Mr. Stevens's.
Harris, Vincent Colby	*Hanover.*	Mrs. Davis's.
Maynard, Ethel Rose	*Barrington.*	Mr. L. Tompson's.
Morel, Cirilo Rodriguez	*Puerto Principe, Cuba.*	Mr. A. Meserve's.
Noyes, Ada Amelia	*Columbia.*	Mr. Dearborn's.
Robertson, Charles Emery	*Buffalo, N. Y.*	Prof. Parsons's.
Tinkham, Frank Alvin	*Grafton.*	Prof. Parsons's.

TWO YEARS' COURSE.

SECOND YEAR.

Name.	Residence.	Room.
Blodgett, Charles Nicklin	*Hebron.*	Hoitt House.
Covell, Lee Robert	*Colebrook.*	Prof. Parsons's.
Verder, Harry Douglass	*Hollis.*	Mr. A. Meserve's.
Wilkins, George C.	*Peterborough.*	Q. T. V. Hall.

FIRST YEAR.

Name.	Residence.	Room.
Brew, George R.	*Lowell, Mass.*	Whitcher's Block.
Cushman, Rufus Leonard	*North Adams, Mass.*	Mrs. Hadley's.
Farr, Carroll Winfred	*North Weare.*	Mrs. Sanders's.
Hills, George Fletcher	*Hollis.*	Mr. Caverno's.
Leary, Eugene Arthur	*Salem, Mass.*	Mr. A. Meserve's.
Lord, Edward Oliver, Jr.	*New London.*	Mr. Caverno's.
Mason, George H.	*Atkinson.*	Whitcher's Block.
Philips, Charles Waldo	*West Rumney.*	
Quinby, Walter E.	*Deerfield.*	Whitcher's Block.
Smith, Ivan John	*Cornish Center.*	Mrs. Waterhouse's.
Tenney, Walter Phelps	*Chester.*	Creamery.
Thompson, Lewis Raymond	*Lee.*	Lee.
Weeks, Thornton Norris	*Greenland.*	Mr. Keith's.
Whittier, Robert Eben	*Deerfield.*	Mr. George Hoitt's.
Wilson, Edward Carlyle	*Wilton.*	Mrs. Mathes's.
Wyman, Archibald Francis	*Braver River Corner, N. S.*	

SPECIAL COURSE.

Name.	Residence.	Subject.
Barker, Willie Lincoln	*Stratham.*	Agriculture.
Bassett, Nellie	*Durham.*	Drawing.
Calef, Mary E.	*Exeter.*	Biology.
Coe, Margaret Alice	*Durham.*	Biology.
Pease, Nellie W.	*Newfields.*	Biology.
Ross, Chester Blanchard	*S. Berwick, Me.*	Chemistry, Zoölogy.
Sanborn, Harriet E.	*Newfields.*	Biology.
Stone, Charles Edwin	*South Berwick, Me.*	Entomology.
Street, Helen M.	*Exeter.*	Biology.
Whidden, Ernest Cooper	*Dover.*	Machine Shop.
Wright, Julia M.	*Exeter.*	Biology.

WINTER AND DAIRY COURSE.

	Residence.
Brew, George R.	*Lowell, Mass.*
Conner, Charles	*Durham.*
Fisk, Weslie H.	*Charlestown.*
Freeman, George R.	*Atkinson.*
Freeman, Homer Harold	*Waterbury Center, Vt.*
Hill, Walter Burnham	*Tilton.*
Locke, Leslie B.	*Hollis.*
Martin, Charles W.	*Durham.*
Messer, Elroy A.	*Claremont.*

Pierce, Benjamin Manley	*Corning, Ohio.*
Pierce, Philip Walton	*Winchester.*
Tenney, Walter Phelps	*Chester.*
Tully, George	*Fitzwilliam.*
Tuttle, Charles	*Durham.*

SUMMARY.

Graduate Students	2
Seniors	13
Juniors	8
Sophomores	17
Freshmen	41
Preparatory Students	13
Students in Two Years' Course	20
Students in Winter Courses	14
Special Students	11
	139
Twice classified	2
	137

ERRATA.

To be added to the list of seniors:

Rollins, Norman Allen *e* *Concord.* Q. T. V. Hall.

The number of seniors, and the total, to be increased by one.

FIRST YEAR.

Name.	Residence.	Room.
Brew, George R.	*Lowell, Mass.*	Whitcher's Block.
Cushman, Rufus Leonard	*North Adams, Mass.*	Mrs. Hadley's.
Farr, Carroll Winfred	*North Weare.*	Mrs. Sanders's.
Hills, George Fletcher	*Hollis.*	Mr. Caverno's.
Leary, Eugene Arthur	*Salem, Mass.*	Mr. A. Meserve's.
Lord, Edward Oliver, Jr.	*New London.*	Mr. Caverno's.
Mason, George H.	*Atkinson.*	Whitcher's Block.
Philips, Charles Waldo	*West Rumney.*	
Quinby, Walter E.	*Deerfield.*	Whitcher's Block.
Smith, Ivan John	*Cornish Center.*	Mrs. Waterhouse's.
Tenney, Walter Phelps	*Chester.*	Creamery.
Thompson, Lewis Raymond	*Lee.*	Lee.
Weeks, Thornton Norris	*Greenland.*	Mr. Keith's.
Whittier, Robert Eben	*Deerfield.*	Mr. George Hoitt's.
Wilson, Edward Carlyle	*Wilton.*	Mrs. Mathes's.
Wyman, Archibald Francis	*Braver River Corner, N. S.*	

SPECIAL COURSE.

WINTER AND DAIRY COURSE.

	Residence.
Brew, George R.	*Lowell, Mass.*
Conner, Charles	*Durham.*
Fisk, Weslie H.	*Charlestown.*
Freeman, George R.	*Atkinson.*
Freeman, Homer Harold	*Waterbury Center, Vt.*
Hill, Walter Burnham	*Tilton.*
Locke, Leslie B.	*Hollis.*
Martin, Charles W.	*Durham.*
Messer, Elroy A.	*Claremont.*

Pierce, Benjamin Manley	*Corning, Ohio.*
Pierce, Philip Walton	*Winchester.*
Tenney, Walter Phelps	*Chester.*
Tully, George	*Fitzwilliam.*
Tuttle, Charles	*Durham.*

SUMMARY.

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Special Students	11
	139
Twice classified	2
	137

ADMISSION.

All candidates for admission to college must present satisfactory testimonials of good moral character.

Candidates for the Freshman class are examined in the following subjects:

I. Arithmetic, including the metric system.

II. Algebra through quadratic equations, including radicals, and fractional and negative exponents.

III. Plane Geometry.

IV. Physics.—Gage's or Carhart & Chute's, or an equivalent.

V. Botany.—Gray's Lessons, sections 1 to 15 (inclusive), and sections 18 and 19, or an equivalent, with some knowledge of classification, and experience in the analysis of our common flowering plants.

VI. Physical Geography.

VII. History of the United States.—Channing's Students' History of the United States, or an equivalent, with 400 pages additional reading. Constitution of the United States.

VIII. History of Greece.—Myers's larger work, or an equivalent.

IX. History of Rome.—Myers's larger work, or an equivalent.

X. French or German.—Grammar. Translation of easy prose at sight. Composition.

XI. English.—Two sets of books are prescribed for preparation in English, one for reading, the other for more careful study. No candidate will be admitted whose work is notably defective in points of spelling, punctuation, idiom, or division into paragraphs. The examinations will consist of two parts:

1. Reading.—A certain number of books will be set for reading. The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. The form of examination will usually be the writing of a paragraph or two on each of several topics to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the book. In preparation for this part of the requirement it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

The books set for this part of the examination will be:

In 1901-1902, Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in "The Spectator"; Goldsmith's Vicar of Wakefield; Tennyson's Princess; Scott's Ivanhoe; Lowell's Vision of Sir Launfal; Cooper's Last of the Mohicans; George Eliot's Silas Marner; Coleridge's Rime of the Ancient Mariner; Shakespeare's Merchant of Venice.

In 1903-1905, The Sir Roger de Coverley Papers in "The Spectator"; Goldsmith's Vicar of Wakefield; Tennyson's Princess; Scott's Ivanhoe; George Eliot's Silas Marner; Coleridge's Rime of the Ancient Mariner; Shakespeare's Merchant of Venice and Julius Cæsar; Carlyle's Essay on Burns; Lowell's Vision of Sir Launfal.

2. Study and Practice.—This part of the examination presupposes the thorough study of each of the works named in this division. In addition the candidate may be required to answer questions involving the essentials of English grammar and composition. Inability to answer such questions will be considered a sufficient ground for refusing admission.

The books set for this part of the examination will be:

In 1901-1905, Shakespeare's Macbeth; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison; Milton's L'Allegro, Il Penseroso, Lycidas, and Comus.

Beginning with September, 1902, all students seeking admission to the Freshman class will be required to pass a satisfactory examination in Solid Geometry. At this same time preparation is also advised in Plane Trigonometry.

For the purpose of assisting students from localities without adequate high school facilities, the college at present gives instruction in several of the subjects required for admission. Students, however, are strongly urged, in all possible cases, to complete a high school course of not less than three years. Those wishing to take these subjects should be prepared for examination in I, II, as far as quadratics, VI, VII, VIII, IX, and XI, so far as to include English Grammar and Composition. For statement of studies given, see page 50.

Admission will be refused to candidates failing in English, or showing marked deficiencies in spelling and punctuation.

Candidates for advanced standing are also examined in the studies that have been pursued by the class which they propose to enter.

A certificate from an academy or a high school will be accepted in place of an examination, upon any subject required for admission. Every certificate must state the amount of work done by the student, his proficiency, and the textbooks used; and in case it is not evident that the student is thoroughly prepared, an examination will be required.

Certificate forms will be furnished on application.

The times for examination are the Monday and Tuesday before Commencement, and the Tuesday and Wednesday before the beginning of the first term. Candidates will first present themselves with their credentials on the first day of the examination. See Calendar.

DESCRIPTION OF STUDIES.

For the Courses of Study see page 37 et seq.

AGRICULTURE.

1. Elementary Agriculture. *Sixty exercises.*

Lectures, recitations, and practical exercises on the fundamental principles of general agriculture. This course forms the foundation for the courses that follow it.

2. General Agriculture. *Twenty exercises.*

Lectures, recitations, and practical exercises on the general field of agriculture and the fundamental principles.

3. Dairying. *Forty-five exercises.*

Practice and occasional lectures. The course consists in the general management of modern dairying, the methods of milk analysis, the bacteriology of milk, the use of separators, the making of butter, and preparation of milk for the city market.

4. Breeds and Breeding. *Forty exercises.*

Lectures, recitations, and practical work. An elementary course on the practical applications of the laws of inheritance, including the scoring, judging, and studying of breeds of live stock.

5. Farm Equipment. *Forty-five exercises.*

Lectures and recitations upon selecting, planning, and equipping farms; planning and erecting farm buildings; farm vehicles and machinery; power, water, and drainage; practical exercises in drawing plans of farms and farm buildings; leveling and laying drains; dynamometer tests of wagons and farm implements, etc.

6. Soils and Fertilizers. *Forty exercises.*

Lectures, recitations upon the origin, formation, kinds, and physical properties of soils and their improvement by cultivation, natural and artificial fertilizers, drainage and irrigation. Practical exercises in testing physical properties of several soils, determining the relation of soils to heat, moisture, air, and fertilizers, and making mechanical analysis.

7. Stock Feeding and Hygiene. *Forty exercises.*

Lectures and recitations upon the laws of nutrition, the character of food stuffs, the relation of foods to animals, and the kind and quality of foods to produce certain results. Practical exercises in calculating digestibility, nutritive ratios, and feeding standards.

8. Farm Crops. *Thirty exercises.*

Lectures and recitations upon the history, production, marketing, and harvesting of farm crops. Practical exercises with growing and dried specimens of farm crops, including grasses, clovers, and other forage crops.

9. Agricultural Seminary. *Thirty exercises.*

This course consists of the study of current agricultural literature. Each student will prepare abstracts, reports, or essays upon assigned articles, books, bulletins, and various agricultural problems.

10. Breeds of Live Stock. *Forty-five exercises.*

Lectures and recitations upon the history, characteristics, care, adaptation, and management of the different breeds of live stock. Practical exercises are given in scoring and judging the various kinds of live stock with use of the score card.

11. Dairying. *Thirty exercises.*

Practical exercises in running the separator, churning, and making butter, and testing, pasteurizing, and analyzing milk.

12. Principles of Breeding. *Thirty exercises.*

Lectures and recitations upon the laws of inheritance and their practical application.

Practical exercises in scoring and judging live stock, and in writing and tracing pedigrees.

13. History of Agriculture and Rural Economics. *Twenty exercises.*

Lectures upon the history of agriculture; present agricultural methods in various countries; cost and relative profits of various farm operations and systems.

14. Physiological Anatomy. *Thirty exercises.*

Lectures upon the anatomy and physiology of domestic animals.

15. General and Special Pathology. *Twenty exercises.*

Lectures and recitations upon the underlying principles of disease processes; and non-contagious diseases.

16. Contagious Diseases. *Twenty exercises.*

Lectures and recitations upon the more common infectious and contagious diseases.

BOTANY.

1. Structural Botany. *Thirty exercises.*

Lectures and laboratory work on the minute structure and physiology of plants, with special reference to the higher forms.
Open only to those who have taken the preparatory Botany or its equivalent.

2. Plant Diseases. *Twenty exercises.*

A study by means of lectures and laboratory work of some of the more important fungous diseases of cultivated plants, and the means of preventing their injuries.
Open only to students who have completed Botany 1.

3. Advanced Courses.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

Open only to those who have shown special proficiency in Botany.

CHEMISTRY.

1. Inorganic Chemistry. *Forty-five exercises.*

Lectures and recitations on general and theoretical chemistry, illustrated by experiments, charts, specimens, lantern views, etc. Solutions of chemical problems will be required.

2. Inorganic Chemistry. *Thirty exercises.*

Course 2 is a continuation of Course 1, but the time will be mainly spent on the metallic elements, their metallurgy, salts, etc.

Open only to students who have completed Course 1.

3. Organic Chemistry. *Twenty exercises.*

Course 3 will consist of lectures and recitations on the chemistry of the carbon compounds, together with the study of their properties by means of specimens.

Open only to students who have completed Courses 1 and 2.

4. Qualitative Chemical Analysis.

Course 4 consists of laboratory practice, with occasional lectures. The student is expected to become proficient in the separation and detection of the common acids and bases, and to keep a full set of notes. He will have practice in the writing of reactions, and will fill out numerous slips containing questions bearing upon his work.

Open only to students who have completed Courses 1 and 2.

5. *a.* Chemistry of Plant Growth. *Forty-five exercises.*

The composition of plants at different stages of growth, and the conditions necessary for their development. This subject must be preceded by Chemistry Courses 1, 2, and 3.

b. Food and Nutrition. *Twenty exercises.*

These subjects include the composition of foods, and the animal body; the assimilation of the former by the latter, and the principles underlying a rational diet. This subject should be preceded by Course 5 *a.*

6. *a.* Industrial Chemistry. *Twenty exercises.*

Course 6 *a* consists of lectures on chemical manufactures, such as sugar, sodium carbonate, fertilizers, sulphuric acid, glass, matches, paints, dyes, soaps, illuminating gas, petroleum, etc. The lectures will be illustrated by lantern views; and trips to the leading New England cities, to examine important chemical manufactures, will be taken as far as practicable.

b. Metallurgy. *Twenty exercises.*

Course 6 *b* consists of lectures describing the processes employed in the smelting of the ores of iron, lead, copper, zinc,

silver, gold, etc., and upon the methods used in refining these metals. The lectures are illustrated by stereopticon and by specimens of metallurgical products.

Open only to those who have completed Courses 1, 2, 3, 4.

7. Advanced Quantitative Analysis.

Course 7 extends through the year, and is intended to fit the student for work in the laboratories of agricultural experiment stations, fertilizer works, iron-works, sugar refineries, etc., and for the duties of the public analyst. This course will be made to fit the end which each has in view, and will be largely an individual one. For those students in the Chemical Division of the Agricultural Course the analyses made will tend in the main toward agricultural products, fertilizers, mucks, marls, manures, dairy products, waters, food-stuffs, sugars, etc. For the student wishing to enter metallurgical works, the analyses will be in the main upon iron, steel, and other metals, ores, limestones, slags, alloys, fuels, etc. As a preparation for the study of medicine, work will be done on poisons, foods, drugs, urine, etc. Other lines will be arranged to meet the wants of the individual student. Each student will be given some practice in all of the branches of agricultural, metallurgical, medical, sanitary, and industrial chemistry, in order to lay a foundation for any future work which may be required of him. A short course in gas analysis will also be provided. A portion of the time of the last two terms is given to work bearing upon the preparation of a graduating thesis.

Open to students who have completed Course 4.

8. Organic Chemistry. *Thirty exercises.*

Course 8, for students in the Chemical Division of the Agricultural Course, and in the Technical Chemistry Course, consists of laboratory practice by the students in preparing and purifying products relating to their respective lines of work.

Open to those who have completed Course 3.

9. Chemical Journals, Methods, etc. *Thirty-five exercises.*

The work consists of the study of current chemical literature, which is mainly in the German language, with recitations once a week throughout the year. Each student will be expected to prepare abstracts, reports, criticisms, etc., upon assigned articles.

Open to students taking Course 7.

10. *a.* Physical Chemistry, Lectures. *Twenty exercises.*
b. Theoretical Chemistry, Lectures. *Twenty exercises.*

The work consists of advanced study of chemical theory. Practical experiments will be performed, with the aid of the student, in the determination of vapor density, molecular weights, specific heat, etc.; and the study of isomorphism, diffusion of gases, solutions, molecular and atomic volume, the chemistry of space, etc., will take up much of the time.

Course 10 comes in alternate years with Course 6, and is open to students who have completed Courses 1, 2, and 3.

DRAWING.

Two and one half hours' work is reckoned as one exercise.

1. Freehand Drawing.

a. Fifteen exercises. *b. Ten exercises.*

Course for women.

c. Seventy-five exercises. *d. Fifty exercises.*

Freehand drawing in outline and in light and shade, from geometric models, common objects, and casts of historic ornament.

2. Freehand and Instrumental Drawing.

a. Twenty exercises. *b. Thirty exercises.*

Light and shade drawing from the cast and from still life; pencil sketching; design; details of building construction; projection drawing.

3. Descriptive Geometry and Drawing.

a. Thirty exercises. *b. Twenty exercises.* *c. Thirty exercises.*

Recitations and drawing exercises in the solution of problems in plane and solid geometry, by means of orthographic projections.

d. Twenty exercises.

Recitations on shades and shadows and perspective, with exercises in perspective drawing and line shading.

Course 3 is open only to those who have taken Mathematics 2.

4. Mechanical Drawing.

a. Thirty-eight exercises. *b. Twenty-five exercises.* *c. Thirty exercises.*

Use of instruments, geometrical drawing, lettering and figuring, orthographic projection, elementary perspective, working drawings, tracings and blue prints.

d. Seventy-five exercises. *e. Thirty exercises.* *f. Thirty exercises.*

Working drawings and drafting-room practice.

5. Freehand and Instrumental Drawing.

a. Forty-five exercises. b. Fifty exercises. c. Thirty exercises.

Study of architectural detail; design; use of color; pencil sketching; perspective; historic ornament.

6. Drawing and History of Painting.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

This course includes the drawing of antique figure from casts, pencil sketching, charcoal drawing, use of water colors, and the study of the history of painting.

ENGINEERING.

1. Surveying. *Fifty exercises.*

Recitations, field-work, and plotting, including compass, transit, plane-table, and level work.

2. Mechanism.

a. Thirty exercises. b. Twenty exercises. c. Twenty exercises.

Recitations, and exercises in drawing outlines of elementary combinations of parts of machines, with special reference to the relative motion of the parts, their forms and modes of connection.

Course 2 is open only to those who have taken Drawing 3.

3. Mechanics of Engineering.

a. Thirty exercises. b. Fifty exercises. c. Fifty exercises.

Courses 3 *a* and 3 *b* are devoted to recitations in Statics and Dynamics; Course 3 *c* to Mechanics of Materials.

Course 3 is open only to those who have taken Mathematics 1 to 5, inclusive.

4. Materials of Construction. *Sixty exercises.*

Recitations on the production, properties, uses, and preservation of engineering materials.

Course 4 is open only to those who have taken Course 3 c and Chemistry 2.

5. Steam Engineering.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

Recitations and Lectures on Thermodynamics, Boilers, and Valve Gears.

Course 5 is open only to those who have taken Courses 3 a, 3 b, and Physics 1 and 2.

6. Hydraulics. *Forty-five exercises.*

Course 6 is open only to those who have taken Course 5.

7. Dynamos and Electro-motors.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

Lectures and quizzes on the construction and theory of dynamos and electro-motors, direct current and alternating.

Course 7 is open only to those who have taken Physics 1 to 4 and Mathematics 1 to 5.

8. Mechanical Laboratory.

a. Thirty exercises. b. Thirty exercises. c. Twenty exercises.

Tests of materials, boilers, engines, pumps, indicators, etc.

Course 8 is open only to those who have taken Courses 1 to 5.

9. Machine Design. *Forty exercises.*

Course 9 is open only to those who have taken Courses 3 and 4.

10. Mechanical Engineering.

a. Multiple Expansion Engines. *Thirty exercises.*

b. Gas and Hot Air Engines and Refrigerating Machinery. *Thirty exercises.*

11. Roads, Streets, and Pavements. *Thirty exercises.*

Recitations and lectures on construction and maintenance of paved, macadamized, and gravel roads, with discussion of laws relating thereto.

12. Electrical Engineering.

a. Forty-five exercises. b. Thirty exercises. c. Forty exercises.

A careful study is made of the principles and methods employed in telegraphy, telephony, and electric signalling; the

transmission of electric energy for lighting and power purposes, by direct current, single phase, and multi-phase systems; the electric railway, its installation and operation and the practical management of dynamos and motors.

In connection with this Course it is intended to make excursions to representative stations and plants, as a supplement to the class room work.

Course 12 is open to those who have passed in Course 7.

ENGLISH.

1. Rhetoric.

a. Thirty exercises. b. Twenty exercises. c. Twenty exercises.

2. Three Themes. *One each term.*

Required of all students registered in the Sophomore class.

3. Three Original Declamations. *One each term.*

Required of all students registered in the Junior class.

4. Three Original Declamations. *One each term.*

Required of all students registered in the Senior class.

5. Early English. *Forty-five exercises.*

Study of authors.

6. Elizabethan Writers. *Twenty exercises.*

Study of authors.

7. Writers of the Restoration and the French Influence. *Twenty exercises.*

8. Victorian Writers. *Forty-five exercises.*

9. English Romance. *Twenty exercises.*

10. American Literature. *Fifty exercises.*

Lectures and study of authors.

11. Study of Words. *Twenty exercises.*

12. Advanced Rhetoric. *Twenty exercises.*

FORESTRY.

1. Arboriculture and Forestry. *Twenty exercises.*

The use of trees for shelter, shade, and ornament, and their propagation. Value of trees for timber. How to improve existing woodlands. Influence of forests upon soils, crops, and climate. Establishment and management of plantations of forest trees.

2. Advanced Forestry. *Thirty exercises.*

Theoretical and practical work to enable a student to prepare for forestry practice.

Open only to students having taken Course 1.

FRENCH.

Courses 1, 2, and 3 are taken in Freshman year by students who offer German for admission.

1. Grammar and easy reading with practice in speaking and writing French. *Forty-five exercises.*

2. Grammar continued. Simple stories, committing of poems to memory. *Thirty exercises.*

3. Reading of Modern French Prose, translation from English into French of easy connected narrative.

Thirty exercises.

4. Reading and translation of Modern Prose, Composition, Poems. *Forty-five exercises.*

5. Reading, Translation, and Composition continued, reading at sight. *Thirty exercises.*

6. French Prose, History, and Travel; Composition based on some book read in class. *Thirty exercises.*

7. French Prose, Sight Reading. *Forty-five exercises*

Hugo, Balzac, Sand.

8. Classical French. *Thirty exercises.*

Corneille, Racine, and Molière.

9. General review of French Literature. Outside reading; sight work.

GEOLOGY.

1. Elementary Geology. *Thirty exercises.*

2. Mineralogy. *Thirty exercises.*

A short course in blowpipe analysis, followed by laboratory practice in the determination and study of minerals, with special reference to their economic value.

Course 2 is open only to those who have taken Chemistry 1 and 2.

GERMAN.

Courses 1, 2, and 3 are taken in Freshman year by students who offer French for admission.

1. German Grammar. Declension of nouns and adjectives; verbs. Reading of simple stories; conversation. *Forty-five exercises.*

2. Grammar continued. Composition, Reading, and Translation; Poems. *Thirty exercises.*

3. Reading, Translation, and Composition; Sight Translation. *Thirty exercises.*

4. German Prose of the Nineteenth Century. Composition based on some book read in class. *Forty-five exercises.*

5. German Prose of the Nineteenth Century continued. Composition, outside reading. *Thirty exercises.*

6. Easier works of Lessing and Schiller. Composition. *Thirty exercises.*

7. Masterpieces of German Literature. Lessing and Schiller.

8. Goethe. German Ballads and Lyrics.

9. General review of German Literature, outside reading.

The aim throughout the courses in French and German will be to train the students to make practical use of these languages.

HISTORY.

In the courses in history an important place is given to historical reading carried on in the reference room. In some cases a considerable part of the work is written. Special attention is paid to the development of arts and institutions.

1. Mediæval and Modern History to the beginning of the Seventeenth Century. *Sixty exercises.*

2. Modern History from the beginning of the Seventeenth Century to the French Revolution. *Thirty exercises.*

3. European Political History since the beginning of the French Revolution. *Thirty exercises.*

4. American History to 1825. *Sixty exercises.*

5. American Political History since 1825. *Thirty exercises.*

HORTICULTURE.

1. Principles of Plant Growth. *Forty-five exercises.*

This course is elementary and points out the fundamentals of horticulture. (Short course in agriculture.)

2. Elementary Horticulture. *Fifty exercises.*

Lectures and practice in laboratory, greenhouse, orchard, and ornamental grounds. A study of preparation of soil, drainage, and irrigation, fertilizers, tools, implements, and buildings. Propagation, multiplication, germination, transplanting, budding, grafting, and pollinating. (Short course in agriculture.)

3. Principles of Horticulture. *Thirty exercises.*

Lectures, recitations, and practical exercises on the fundamental principles of general horticulture. This course forms the foundation of the courses that follow it.

4. Olericulture and Seed Growing. *Forty-five exercises.*

Lectures and recitations. References: Green's Vegetable Gardening, Henderson's Gardening for Profit, Brill's Seed Growing, and various special pamphlets.

Open only to those having completed Botany 1.

5. Winter Gardening. *Twenty exercises.*

The construction and management of greenhouses; crops of the vegetable forcing-house. References: Bailey's Forcing Crops; Taft's Greenhouse Construction.

6. Pomology and Viticulture. *Forty-five exercises.*

References: Downing's Fruit and Fruit Trees of America, Thomas's American Fruit Culturist, Barry's Fruit Garden, Fuller's Small Fruit Culturist.

Open only to those having completed Botany 2 and Zoölogy 3.

7. Plant Breeding and Evolution of Domesticated Plants.

Twenty sexercise.

Lectures and recitations upon the laws governing plant life.

8. Horticultural Seminary. *Twenty exercises.*

This course consists of the study of current horticultural literature and various advanced horticultural problems not heretofore touched upon.

9. Landscape Gardening and Floriculture.

Twenty exercises.

The principles of æsthetics as applied to natural scenery; the adornment of home grounds, including management of house plants, climbing vines, and flowering bulbs.

MATHEMATICS.

1. Algebra completed. *Seventy exercises.*

2. Solid Geometry, with advanced course. *Forty exercises.*

3. Plane and Spherical Trigonometry. *Forty exercises.*

4. Analytic Geometry. *Seventy-five exercises.*

5. (*a*) Differential Calculus, (*b*) Integral Calculus.

One hundred exercises.

6. Astronomy. *Forty exercises.*

7. Differential Equations. *Thirty exercises.*

8. Quaternions. *Twenty exercises.*

METEOROLOGY.

1. Meteorology. *Thirty exercises.*

Recitations and lectures on wind systems, precipitation, humidity, laws of storms and tornadoes, and methods of prediction of atmospheric changes.

MILITARY SCIENCE AND TACTICS.

1. Military Drill.

Practical instruction in drill and gymnastic exercises.
Four exercises per week throughout the course.

2. Military Tactics.

Theoretical instruction in drill regulations and the elementary principles of military science.
One exercise per week throughout the Freshman, Sophomore, and Junior years.

PHILOSOPHY.

1. Logic. *Thirty exercises.*

Lectures and recitations.

2. Psychology. *Forty-five exercises.*

Open only to students who have obtained a high average in Course 1.

3. Ethics. *Thirty exercises.*

Lectures and recitations.
Open only to students who have obtained a high average in Courses 1 and 2.

4. Elements of Philosophy. *Fifty exercises.*

Open only to students who have obtained a high average in Courses 1 and 2.

5. History of Philosophy. *Forty exercises.*

Open only to students who have obtained a high average in Course 4.

PHYSICS.

1. Mechanics. *Thirty exercises.*

2. (*a*) Heat, (*b*) Light. *Forty-five exercises.*

3. Sound. *Twenty exercises.*

4. Electricity and Magnetism. *Forty exercises.*

Courses 1, 2, 3, and 4 are a general introduction to the subject. The instruction is given by recitations and lectures, the latter being illustrated by experiments and stereopticon. Notes on lectures and experiments are submitted by each student.

5. Elements of Least Squares and the Precision of Measurements. *Forty-five exercises.*

6. Physical Laboratory.

a. Thirty exercises. *b. Thirty exercises.*

The work consists in the experimental verification of the laws of physics and the determination of physical constants, a few of the investigations being the following: the analytical balance, the law of the pendulum, harmonic motions of translation and rotation. specific heats, latent heats, expansion of gases, law of lenses, candle power of lights, velocities of sound in air and metals, the intensity of the earth's magnetism, the resistance of wires and voltaic cells, the e. m. f. of batteries, etc.

Courses 5 and 6 are taken consecutively and are open only to those who have passed in Courses 1, 2, 3, and 4. Students in engineering must also have passed in Mathematics 1 to 5, inclusive.

7. Theoretical Electricity.

a. Forty-five exercises. b. Thirty exercises. c. Thirty exercises.

The course includes the subjects of electro-statics, magnetism, and electro-dynamics as treated mathematically, the study of electrical measuring instruments and methods, and the theory of periodic currents.

Course 7 is open only to those who have passed in Courses 1 to 6.

8. Applications of Electricity.

a. Forty-five exercises. *b. Thirty exercises.*

The principles and methods employed in electrical measurements,—such as resistance of wires and batteries, e. m. f. of bat-

teries, current measurement by ammeter and electrolysis, use of the voltmeter, etc.,—will be carefully considered. A brief study will be made of the dynamo, motor, transformer, primary and secondary batteries, arc and incandescent lamps, and the general principles of electrical distribution.

Course 8 is open to those who have taken Courses 1 to 4.

9. Electrical Laboratory.

a. Twenty exercises. *b. Twenty exercises.*

This work consists of the various uses of the Wheatstone Bridge; the calibration of galvanometers, ammeters, etc.; the measurement of high resistances, capacities, and inductances; the determination of the candle power of incandescent and arc lamps; the study of direct and alternating current dynamos and motors; the efficiencies of a transformer under different loads; power measurements by watt-meter, etc.

Course 9 is open only to those who have passed in Physics 1 to 7, and Engineering 7.

See also Engineering.

POLITICAL SCIENCE.

1. Political Economy. *Fifty exercises.*

An elementary course, with lectures upon some of the practical questions of the day.

2. Laws of Business. *Thirty-three exercises.*

Recitations supplemented by lectures and the discussion of cases.

3. American Constitutional Law. *Forty-two exercises.*

Use is made of Pomeroy's Constitutional Law, which is supplemented by the decisions of the United States Supreme Court. Special attention is given to the connection between American constitutions and American political history.

4. Advanced Political Economy. *Thirty exercises.*

A consideration of such subjects as banking, bimetallism, and tariff legislation.

Open only to those who have taken Course 1.

5. Advanced Political Economy, or Social Science. *Thirty exercises.*

Open only to those who have taken Courses 1 and 4.

6. International Law. *Thirty exercises.*

Quantitative Chemical Laboratory.

JCL.

SHOP WORK.

Three hours' work in the shops is reckoned as one exercise.

1. Work in Wood Shop.

a. Thirty-seven exercises. *b. Twenty-five exercises.*
c. Thirty exercises.

Exercises in carpentry work, joinery, and pattern making.

2. Work in Machine Shop, Forge Shop, and Foundry.

Exercises in bench work, machine work, and shop measurements, forging, molding, and casting.

a. Forty-five exercises.
b. Thirty exercises.
c. Thirty exercises.
d. Thirty exercises.
e. Twenty exercises.
f. Twenty exercises.
g. Forty-five exercises.
h. Thirty exercises.
i. Thirty exercises.

ZOOLOGY.

1. Introductory Zoölogy. *Forty-five exercises.*

A general introduction to the study of animal life, by means of lectures and laboratory dissections of the principal types.

2. Animal Biology. *Twenty exercises.*

A general study of the nature and processes of animal life, with special attention to heredity, variation, development, and mental powers.

Open to students who have taken Course 1.

3. Entomology. *Thirty or Fifty exercises.*

A review of the classification, structural characters, and biological relations of insects, with a special study of those injurious to cultivated crops and domestic animals, and of the means of preventing their injuries.

Open only to those who have taken Courses 1 and 2.

4. Economic Ornithology. *Fifteen exercises.*

Lectures on the relations of birds to agriculture, and their relations to each other and to other organisms.

Course 4 is open only to students who have taken Courses 1, 2, and 3.

5. Comparative Anatomy. *Ten exercises.*

6. Advanced Zoölogy.

Averaging four exercises a week for a year.

Course 6 is intended for those students who elect Zoölogy for their Senior year. It will usually be modified to suit individual needs. Open only to those who have completed all preceding Courses, and shown special proficiency in Zoölogy.

7. Zoölogical Bibliography. *One hour a week for a year.*

Open only to students taking Course 6.

COURSES OF STUDY AND SCHEDULE OF HOURS.

For details, see Description of Studies.

Chapel exercises: 11.50 daily, except that on Sundays the exercises are held at 5 P. M. Attendance is required of all students.

Military drill: Military Science 1. M., T., Th., F., 12 to 12.30. Attendance is required of all male students.

Rhetoricals: Wednesdays, 12 to 12.30. Attendance is required of all students.

FRESHMAN YEAR.

For all Four-Year Courses.

FIRST TERM.

		Exercises per week.
Rhetoric—English 1*a*	Div. I. W. F. 10 Div. II. W. F. 11	2
Algebra and Geometry—Mathematics 1 and 2	Div. I. M. T. W. Th. F. S. 11 Div. II. M. T. W. Th. F. S. 10	6
*Shop Work and Drawing—Shop Work 1*a* and Drawing 4*a* M. T. W. Th. F. 1.30 to 4		5
Freehand Drawing—Drawing 1*a* .	Div. I. W. 8 to 10 Div. II. F. 8 to 10	1
French—French 1. T. Th. S. 9		3
or German—German 1. T. Th. S. 8		3
Military Tactics—Military Science 2 .	Div. I. Th. 10 Div. II. Th. 11	

SECOND TERM.

Rhetoric—English 1*b*	Div. I. W. F. 10 Div. II. W. F. 11	2
Geometry and Trigonometry—Mathematics 2 and 3	Div. I. M. T. W. Th. F. S. 11 Div. II. M. T. W. Th. F. S. 10	6
*Shop Work and Drawing—Shop Work 1*b* and Drawing 4*b*. M. T. W. Th. F. 1.30 to 4		5
Freehand Drawing—Drawing 1*b* .	Div. I. W. 8 to 10 Div. II. F. 8 to 10	1
French—French 2. T. Th. S. 9		3
or German—German 2. T. Th. S. 8		3
Military Tactics—Military Science 2 .	Div. I. Th. 10 Div. II. Th. 11	2

THIRD TERM.

Rhetoric—English 1*c*	Div. I. W. F. 9 Div. II. W. F. 8	
Surveying—Engineering 1. M. T. W. 1.30 to 4 . . .		3
Mechanics—Physics 1. M. W. F. 10		3
†Botany—Botany 1. T. Th. S. 9 to 11.50		3
†Shop Work—Shop Work 1*c*. S. 9 to 11.50. Th. F. 1.30 to 4		3
Agriculture—Agriculture 2. By appointment . . .		2
Horticulture—Horticulture 3. W. F. 11		2
†Drawing—Drawing 4*c*. M. 8 to 10. T. Th. 9 to 11.50 .		3

* Women take additional Drawing and omit Shop Work.

† Shop Work and Drawing are taken in the third term by students intending to complete either of the Engineering Courses or the Course in Technical Chemistry; Botany is taken by all other students. Agriculture and Horticulture required in the Agricultural Course.

French—French 3. T. Th. S. 9	3
or German—German 3. T. Th. S. 8	3
Military Tactics—Military Science 2 . . { Div. I. W. 8 / Div. II. W. 9 }	

COURSE IN AGRICULTURE.

Sophomore Year.

FIRST TERM.

	Exercises per week.
Farm Equipment—Agriculture 4. W. F. 9. T. 1.30	3
Olericulture—Horticulture 4. T. Th. S. 9	3
Introductory Zoölogy—Zoölogy 1. M. W. F. 1.30 to 4	3
Heat and Light—Physics 2. T. Th. S. 10	3
Inorganic Chemistry—Chemistry 1. M. W. F. 10	3
German—German 4. T. Th. S. 11	3
Military Tactics—Military Science 2. Th. 8.	
One Theme—English 2.	

SECOND TERM.

Soil Physics—Agriculture 5. W. F. 9. T. Th. 1.30	4
Arboriculture and Forestry—Forestry 1. T. Th. 9	2
Animal Biology—Zoölogy 2. W. F. 1.30 to 4	2
Comparative Anatomy—Zoölogy 5. S. 8	1
Sound and Electricity—Physics 3 and 4. T. Th. S. 10	3
Inorganic Chemistry—Chemistry 2. M. W. F. 10	3
German—German 5. T. Th. S. 11	3
Military Tactics—Military Science 2. Th. 8.	
One Theme—English 2.	

THIRD TERM.

Stock Feeding—Agriculture 6. T. Th. S. 9	3
Entomology—Zoölogy 3. M. T. W. Th. F. 1.30 to 4	5
Plant Diseases—Botany 2. M. W. 9 to 11	2
Organic Chemistry—Chemistry 3. M. F. 11	2
Electricity and Magnetism—Physics 4. T. Th. S. 10	3
German—German 6. T. Th. S. 11	3
Military Tactics—Military Science 2. Th. 8.	
One Theme—English 2.	

Junior Year.

FIRST TERM.

Pomology—Horticulture 6. T. Th. S. 11	3
Chemistry of Plant Growth—Chemistry 5*a*. T. W. F. 8	3
Ornithology—Zoölogy 4. S. 8	1

French—French 4. M. W. F. 11 3
or Am. Political History—History 4. T. Th. S. 10 to 11.50. F. 1.30 to 4 4
Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 . 3
Early English—English 5. M. W. F. 10 3
Physiological Anatomy—Agriculture 14. By appointment . 2
Military Tactics—Military Science 2. M. 9.
One Original Declamation—English 3.

SECOND TERM.

Food and Nutrition—Chemistry 5*b*. W. F. 8 2
Logic—Philosophy 1. M. W. F. 10 3
Geology—Geology 1. T. Th. S. 11 3
French—French 5. M. W. F. 11 3
or Am. Political History—History 5. T. Th. S. 9 to 11 . 3
Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4 . 3
Elizabethan Writers—English 6. W. F. 9 2
General and Special Pathology—Agriculture 15. By appointment 2
Military Tactics—Military Science 2. S. 8.
One Original Declamation.

THIRD TERM.

Farm Crops—Agriculture 7. T. Th. S. 10 3
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
English Literature—English 7. T. Th. 11 2
French—French 6. M. W. F. 11 3
or Modern History—History 3. T. Th. F. 1.30 to 4 . . 3
Mineralogy—Geology 2. M. W. F. 9 to 11 3
Contagious Diseases—Agriculture 16. By appointment . 2
Military Tactics—Military Science 2. S. 11.
One Original Declamation—English 3.

SENIOR YEAR.

FIRST TERM.

Breeds of Live Stock—Agriculture 9. T. 1.30. Th. S. 10 . 3
Agricultural Seminary—Agriculture 8. By appointment . 2
Constitutional Law—Political Science 3 } T. W. Th. F. S. 9 5
Laws of Business—Political Science 2 }
English Literature—English 8. T. Th. S. 10 3
Psychology—Philosophy 2. T. Th. S. 11 3
One Original Declamation—English 4.

SECOND TERM.

Principles of Breeding—Agriculture 11. M. T. W. 1.30 . 3
Plant Breeding—Horticulture 7. By appointment . . 2
Dairying—Agriculture 10. By appointment 2
International Law—Political Science 6. M. W. F. 11 . . 3
or Astronomy—Mathematics 6. T. W. Th. F. 9 . . 4
or Elements of Philosophy—Philosophy 4. T. W. Th. F. S. 9 5
Ethics—Philosophy 3. T. Th. S. 10 3
Advanced Political Science 4. T. Th. S. 11 3
One Original Declamation—English 4.

THIRD TERM.

Rural Economics—Agriculture 12. By appointment . . 2
Horticultural Seminary—Horticulture 8. By appointment . 2
Landscape Gardening—Horticulture 9 3
*Roads—Engineering 11. M. W. F. 10 3
*American Literature—English 10. T. W. Th. F. 9. T. 1.30 to 4 5
*History of Philosophy—Philosophy 5. M. W. F. 11. S. 9 . 4
*Meteorology—Meteorology 1. T. Th. S. 10 3
*Advanced Political Economy—Political Science 5. T. Th. S. 11 3
*Advanced Forestry—Forestry 2. By appointment . . 3
One Original Declamation—English 4.

* Elect 9 exercises.

BIOLOGICAL DIVISION OF THE AGRICULTURAL COURSE.

Students wishing to make a special study of the biological sciences relating to Agriculture—such as botany, entomology, and economic zoölogy—will elect in their senior year the advanced courses in botany or zoölogy

CHEMICAL DIVISION OF THE AGRICULTURAL COURSE.

The work in this division is intended especially to fit for the profession of an agricultural chemist—for work in experiment stations, large dairy establishments, fertilizer works, etc. Students wishing to take this course will elect, with the advice of the instructors in charge, seven hours per week of chemical work during the Junior year, and eight hours per week during the Senior year. Two years of German will be required in this course, and French is recommended to be taken by students intending to enter the division.

COURSES IN ENGINEERING.

Sophomore Year.

FIRST TERM.

	Exercises per week.
Analytic Geometry—Mathematics 4. T. W. Th. F. S. 8	5
Descriptive Geometry—Drawing 3*a*. M. W. 1.30 to 4	2
Heat and Light—Physics 2. T. Th. S. 10	3
German—German 4. T. Th. S. 11	3
Shop Work—Shop Work 2*a*. M. W. 9 to 11.45. F. 1.30 to 4	3
Mechanism—Engineering 2*a*. F. 9 to 11.50. S. 9	2
Military Tactics—Military Science 2. Th. 9.	
One Theme—English 2.	

SECOND TERM.

Differential Calculus—Mathematics 5*a*. T. W. Th. F. S. 8	5
Descriptive Geometry—Drawing 3*b*. M. W. 1.30 to 4	2
Sound and Electricity—Physics 3 and 4. T. Th. S. 10	3
German—German 5. T. Th. S. 11	3
Shop Work—Shop Work 2*b*. M. W. 9 to 11.45. F. 1.30 to 4	3
Mechanism—Engineering 2*b*. T. 9. F. 9 to 11.50	2
Military Tactics—Military Science 2. Th. 9.	
One Theme—English 2.	

THIRD TERM.

Integral Calculus—Mathematics 5*b*. T. W. Th. F. S. 8	5
Electricity and Magnetism—Physics 4. T. Th. S. 10	3
German—German 6. T. Th. S. 11	3
Descriptive Geometry and Perspective Drawing—Drawing 3*c* and 3*d*. M. T. W. Th. F. 1.30 to 4	5
Mechanism—Engineering 2*c*. M. W. 9 to 11.50	2
Military Tactics—Military Science 2. Th. 9.	
One Theme—English 2.	

Junior Year.

Throughout the year shop work is taken by Mechanical Engineering students and Theoretical Electricity by Electrical Engineering students.

FIRST TERM.

Mechanics of Engineering—Engineering 3*a*. T. W. F. S. 9	4
Inorganic Chemistry—Chemistry 1. M. W. F. 10	3
Theoretical Electricity—Physics 7*a*. M. W. F. 11	3
Least Squares and Precision of Measurements—Physics 5. M. T. W. 1.30 to 4	3

Steam Engineering—Engineering 5*a*. T. Th. S. 11 . . 3
Dynamos and Electro-Motors—Engineering 7*a*. M. 9. Th. F. 8 3
Shop Work—Shop Work 2*d*. Th. F. 1.30 to 4 2
Military Tactics—Military Science 2. W. 8.
One Original Declamation—English 3.

SECOND TERM.

Mechanics of Engineering—Engineering 3*b*. T. W. Th. S. 9 4
Inorganic Chemistry—Chemistry 2. M. W. F. 10 . . . 3
Physical Laboratory—Physics 6*a*. M. T. W. 1.30 to 4 . . 3
Steam Engineering—Engineering 5*b*. T. Th. S. 11 . . 3
Dynamos and Electro-Motors—Engineering 7*b*. M. 9. W. Th. 8 3
Theoretical Electricity—Physics 7*b*. M. W. F. 11 . . . 3
Shop Work—Shop Work 2*e*. Th. F. 1.30 to 4 2
Military Tactics—Military Science 2. S. 8.
One Original Declamation—English 3.

THIRD TERM.

Mechanics of Engineering—Engineering 3*c*. T. W. Th. F. 8 4
Mineralogy—Geology 2. M. W. F. 9 to 11 3
Physical Laboratory—Physics 7*b*. M. T. W. 1.30 to 4 . . 3
Steam Engineering—Engineering 5*c*. T. Th. S. 10 . . 3
Dynamos and Electro-Motors—Engineering 7*c*. T. Th. 11. S. 9 3
Theoretical Electricity—Physics 7*c*. M. W. F. 11 . . 3
Shop Work—Shop Work 2*f*. Th. F. 1.30 to 4 2
Military Tactics—Military Science 2. S. 11.
One Original Declamation—English 3.

COURSE IN MECHANICAL ENGINEERING.

Senior Year.

FIRST TERM.

Exercises per week.

Materials of Construction—Engineering 4. M. W. Th. 10. T. 8 4
Hydraulics—Engineering 6. M. 11. T. 10. Th. 9 . . 3
or French—French 4. M. W. F. 11 3
Mechanical Drawing—Drawing 4*d*. F. S. 8 to 11, and by appointment 5
Mechanical Laboratory—Engineering 8*a*. Th. F. 1.30 to 4 . 2
Chemical Laboratory—Chemistry 4. M. W. 1.30 to 4 . . 2
Shop Work—Shop Work 2*g*. By appointment . . . 3
One Original Declamation—English 4.

SECOND TERM.

Machine Design—Engineering 9. T. 8. W. Th. S. 10 . .	4
Mechanical Laboratory—Engineering 8*b*. W. Th. F. 1.30 to 4	3
Mechanical Engineering—Engineering 10*a*. M. W. F. 11 .	3
or French—French 5. M. W. F. 11	3
Chemical Laboratory—Chemistry 4. M. T. 1.30 to 4 . .	2
Drawing—Drawing 4*e*. By appointment	3
Shop Work—Shop Work 2*h*. By appointment . . .	3
One Original Declamation—English 4.	

THIRD TERM.

Mechanical Engineering—Engineering 10*b*. M. F. 11. S. 9	3
or French—French 6. M. W. F. 11	3
Mechanical Laboratory—Engineering 8*c*. M. T. 1.30 to 4 .	2
Political Economy—Political Science 1. T. W. Th. F. S. 8 .	5
Thesis. W. T. F. 1.30 to 4	3
Drawing—Drawing 4*f*. By appointment	3
Shop Work—Shop Work 2*i*. By appointment . . .	3
One Original Declamation—English 4.	

COURSE IN ELECTRICAL ENGINEERING.

Senior Year.

FIRST TERM.

	Exercises per week.
Materials of Construction—Engineering 4. M. W. Th. 10. T. 8	4
Theoretical Electricity—Physics 7*d*. T. S. 11. W. 9 . .	3
Mechanical Drawing—Drawing 4*d*. F. S. 8 to 11 . . .	2
Mechanical Laboratory—Engineering 8*a*. Th. F. 1.30 to 4 .	2
Electrical Engineering—Engineering 12 *a*. M. W. 8. Th. 11	3
or French—French 4. M. W. F. 11	3
Hydraulics—Engineering 6. M. 11. T. 10. Th. 9 . .	3
Chemical Laboratory—Chemistry 4. M. W. 1.30 to 4 . .	2
One Original Declamation—English 4.	

SECOND TERM.

Electrical Laboratory—Physics 9*a*. T. Th. 9 to 11 . .	2
Electrical Engineering—Engineering 12*b*. T. Th. S. 11. W. F. 9. S. 8	6
Mechanical Laboratory—Engineering 8*b*. W. Th. F. 1.30 to 4	3
Theoretical Electricity—Physics 7*e*. M. W. F. 10 . . .	3
or French—French 5. M. W. F. 11	3
Chemical Laboratory—Chemistry 4. M. T. 1.30 to 4 . .	2
Mechanical Engineering—Engineering 10*a*. M. W. F. 11 .	3
One Original Declamation—English 4.	

THIRD TERM.

Mechanical Laboratory—Engineering 8*c*. M. T. 1.30 to 4	2
Electrical Engineering—Engineering 12*c*. M. T. F. 9. S. 11	4
or French—French 6. M. W. F. 11	3
Electrical Laboratory—Physics 9*b*. W. Th. 1.30 to 4 . .	2
Thesis. W. Th. 9 to 11.45. F. 1.30 to 4	3
Political Economy—Political Science 1. T. W. Th. F. S. 8 .	5
Mechanical Engineering—Engineering 10*b*. M. F. 11. S. 9	3

One Original Declamation—English 4.

COURSE IN TECHNICAL CHEMISTRY.

Sophomore Year.

FIRST TERM.

	Exercises per week.
Analytic Geometry—Mathematics 4. T. W. Th. F. S. 8 .	5
Descriptive Geometry—Drawing 3*a*. M. W. 1.30 to 4 . .	2
German—German 4. T. Th. S. 11	3
Inorganic Chemistry—Chemistry 1. M. W. F. 10 . .	3
Heat and Light—Physics 2. T. Th. S. 10	3

Military Tactics—Military Science 2. Th. 9.
One Theme—English 2.

SECOND TERM.

Differential Calculus—Mathematics 5*a*. T. W. Th. F. S. 8 .	5
Descriptive Geometry—Drawing 3*b*. M. W. 1.30 to 4 . .	2
German—German 5. T. Th. S. 11	3
Inorganic Chemistry—Chemistry 2. M. W. F. 10 . . .	3
Sound and Electricity—Physics 3 and 4. T. Th. S. 10 . .	3

Military Tactics—Military Science 2. Th. 9.
One Theme—English 2.

THIRD TERM.

Integral Calculus—Mathematics 5*b*. T. W. Th. F. S. 8 .	5
Mineralogy—Geology 2. M. W. F. 9 to 11	3
German—German 6. T. Th. S. 11	3
Organic Chemistry—Chemistry 3. W. F. 11	2
Electricity and Magnetism—Physics 4. T. Th. S. 10 . .	3

Military Tactics—Military Science 2. Th. 9.
One Theme—English 2.

Junior Year.

FIRST TERM.

Chemistry of Plant Growth—Chemistry 5*a*. T. W. F. 8 .	3
Shop Work—Shop Work 2*a*. Th. 8 to 11.45	2

French—French 4. M. W. F. 11 3
Mechanics of Engineering—Engineering 3*a*. T. W. F. S. 9 4
Chemical Laboratory—Chemistry 4 and 7. M. T. W. Th. F. 1.30 to 4. S. 10 to 11.45 6
Military Tactics—Military Science 2. M. 9.
One Original Declamation—English 3.

SECOND TERM.

Chemical Laboratory—Chemistry 7. M. T. W. Th. F. 1.30 to 4. M. 9 to 11. F. 8 to 11 7
Industrial Chemistry—Chemistry 6*a*. T. W. 10 . . . 2
Mechanics of Engineering—Engineering 3*b*. T. W. Th. S. 9 4
French—French 5. M. W. F. 11 3
Military Tactics—Military Science 2. S. 8.
One Original Declamation—English 3.

THIRD TERM.

Chemical Laboratory—Chemistry 7. M. T. W. Th. F. 1.30 to 4. S. 9 to 11. Th. 9 to 11.45 7
Metallurgy—Chemistry 6*b*. M. W. 8 2
Mechanics of Engineering—Engineering 3*c*. T. W. Th. F. 8 5
French—French 6. M. W. F. 11 3
Military Tactics—Military Science 2. S. 11.
One Original Declamation—English 3.

Senior Year.

FIRST TERM.

Chemical Laboratory—Chemistry 7. M. W. F. 1.30 to 4. T. 8 to 11. W. Th. F. 9 to 11 7
Organic Chemistry—Chemistry 8. T. Th. 1.30 to 4 . . 2
Chemical Journals—Chemistry 9. S. 9 1
Steam Engineering—Engineering 5*a*. T. Th. S. 11 . . 3
Application of Electricity—Physics 8*a*. M. F. 11. W. F. 8 3
One Original Declamation—English 4.

SECOND TERM.

Chemical Laboratory—Chemistry 7 and Thesis. W. F. 8 to 11. T. Th. 1.30 to 4. S. 8 to 10 7
Steam Engineering—Engineering 5*b*. T. Th. S. 11 . . 3
Chemical Journals—Chemistry 9. S. 10 1
Physical Chemistry—Chemistry 10*a*. T. Th. 10 . . . 2
Applications of Electricity—Physics 8*b*. M. W. F. 11 . . 3
One Original Declamation—English 4.

THIRD TERM.

Chemical Laboratory—Chemistry 7 and Thesis. M. T. W. Th. F. 1.30 to 4 5
Chemical Journals—Chemistry 9. S. 11 1
Theoretical Chemistry—Chemistry 10*b*. T. Th. 11 . . 2
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
Meteorology—Meteorology 1. T. Th. S. 10 3
One Original Declamation—English 4.

GENERAL COURSE.

This course gives to students an opportunity to take parts of the courses in Agriculture and the Mechanic Arts: to pursue the study of English, French, German, and History each for two or more years: to devote to Philosophy one year and to Mathematics and the Sciences the time usually allowed in colleges. With its arrangement of elective studies it is fitted to serve at the same time as a course for women and as a preparation for professional study or business life.

Sophomore Year.

FIRST TERM.

Exercises per week.

Introductory Zoölogy—Zoölogy 1. M. W. F. 1.30 to 4 . . 3
German—German 4. T. Th. S. 11 3
Inorganic Chemistry—Chemistry 1. M. W. F. 10 . . . 3
Heat and Light—Physics 2. T. Th. S. 10 3
Medieval and Modern History—History 1. W. F. 11. T. Th. 1.30 to 4.
or Analytic Geometry—Mathematics 4. T. W. Th. F. S. 8 4 or 5
Military Tactics—Military Science 2. Th. 8 or 9.
One Theme—English 2.

SECOND TERM.

German—German 5. T. Th. S. 11 3
Inorganic Chemistry—Chemistry 2. M. W. F. 10 . . . 3
Sound and Electricity—Physics 3 and 4. T. Th. S. 10 . 3
*Modern History—History 2. M. T. Th. 1.30 to 4 . . . 3
*Animal Biology—Zoölogy 2. W. F. 1.30 to 4 . . . 2
*Advanced Freehand Drawing—Drawing 2*a*. W. F. 8 to 10 2
*Study of Words—English 11. W. F. 11 2
*Differential Calculus—Mathematics 5*a*. T. W. Th. F. S. 8 5
*Forestry—Forestry 1. T. Th. 9 2

*Elect 7 exercises.

Military Tactics—Military Science 2. Th. 8 or 9.
One Theme—English 2.

THIRD TERM.

German—German 6. T. Th. S. 11	3
Electricity and Magnetism—Physics 4. T. Th. S. 10	3
*European History since 1789—History 3. T. Th. F. 1.30 to 4	3
*Entomology—Zoölogy 3. M. W. F. 1.30 to 4	3
*Organic Chemistry—Chemistry 3. W. F. 11	2
*Advanced Freehand Drawing—Drawing 2*b*. M. W. F. 9 to 11	3
*Advanced Rhetoric—English 12. Th. F. 1.30 to 4	2
*Integral Calculus—Mathematics 5*b*. T. W. Th. F. S. 8	5

Military Tactics—Military Science 2. Th. 8 or 9.
One Theme—English 2.

Elect 10 exercises.

Junior Year.

FIRST TERM.

French—French 4. M. W. F. 11	3
American Political History—History 4. T. Th. S. 10 to 11.50. F. 1.30 to 4	4
Early English—English 5. M. W. F. 10	3
*German—German 7. W. F. 8†	3
*Chemistry of Plant Growth—Chemistry 5*a*. T. W. F. 8	3
*Economic Ornithology—Zoölogy 4. S. 8	1
*Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4	3
*Least Squares and Precision of Measurements—Physics 5. M. T. W. 1.30 to 4	3
*Drawing—Drawing 5*a*. T. Th. 8 to 10. Th. 1.30 to 4	3
*Differential Equations—Mathematics 7	2

Military Tactics—Military Science 2. W. 8 or M. 9.
One Original Declamation—English 3.

* Elect 6 exercises.

† Considered as 3 exercises.

SECOND TERM.

French—French 5. M. W. F. 11	3
American Political History—History 5. T. Th. S. 9 to 11	3
Elizabethan Writers—English 6. W. F. 9	2
Logic—Philosophy 1. M. W. F. 10	3
*German—German 8. W. F. 8†	3
*Geology—Geology 1. T. Th. S. 11	3
*Food and Nutrition—Chemistry 5*b*. W. F. 8	2
*Chemical Laboratory—Chemistry 4. M. T. W. 1.30 to 4	3

* Elect 7 exercises.

Greenhouse, with Barn in Background.

*Physical Laboratory—Physics 6*a*. M. T. W. 1.30 to 4 . . 3
*Drawing—Drawing 5*b*. T. Th. S. 8. Th. F. 1.30 to 4 . 2 or 5
*Quaternions—Mathematics 8 2
Military Tactics—Military Science 2. S. 8.
One Original Declamation—English 3.

* Elect 5 exercises.

THIRD TERM.

French—French 6. M. W. F. 11 3
*Mineralogy—Geology 2. M. W. F. 9 to 11 3
Writers of Restoration—English 7. T. Th. 11 . . . 2
Political Economy—Political Science 1. T. W. Th. F. S. 8 . 5
Military Tactics—Military Science 2. S. 11.
One Original Declamation—English 3.
*Drawing—Drawing 5*c*. T. Th. S. 9 to 11 3
*Chemical Laboratory—Chemistry 7. M. T. W. 1.30 to 4 . 3
*Physical Laboratory—Physics 6*b*. M. T. W. 1.30 to 4 . 3
*German—German 9. W. F. 8† 3

* Elect 6 exercises.

† Considered as 3 exercises.

Senior Year.

FIRST TERM.

English 4 required; sixteen exercises elective.

Constitutional Law—Political Science 3 } T. W. Th. F. S. 9 5
Laws of Business—Political Science 2 }
French—French 7. M. W. F. 10 3
Victorian Writers—English 8. T. Th. S. 10 3
Psychology—Philosophy 2. T. Th. S. 11 3
Chemical Laboratory—Chemistry 7. M. T. W. 1.30 to 4 . 3
Advanced Zoölogy—Zoölogy 6. M. T. W. Th. 1.30 to 4 . 4
Advanced Botany—Botany 3. M. T. W. 1.30 to 4 . . . 3
Drawing and History of Painting—Drawing 6*a*. M. T. W. 1.30 to 4 3
One Original Declamation—English 4.
Thesis Work 2

SECOND TERM.

English 4 required; sixteen exercises elective.

French—French 8. M. W. F. 10 3
Astronomy—Mathematics 6. T. W. Th. F. 9 4
International Law—Political Science 6. M. W. F. 11 . . 3
English Romance—English 9. Th. F. 3 2
Elements of Philosophy—Philosophy 4. T. W. Th. F. S. 9 . 5

Ethics—Philosophy 3. T. Th. S. 10 3
Advanced Political Economy—Political Science 4. T. Th. S. 11 3
Chemical Laboratory—Chemistry 7. M. T. W. 1.30 to 4 . 3
Advanced Zoölogy—Zoölogy 6. M. T. W. 1.30 to 4 . . 3
Advanced Botany—Botany 3. M. T. W. 1.30 to 4 . . . 3
Advanced Drawing and History of Painting—Drawing 6*b*. M. T. W. 1.30 to 4 3
One Original Declamation—English 4.
Thesis Work . . . . . 1 or 2

THIRD TERM.

English 4 required; fourteen exercises elective.

American Literature—English 10. T. W. Th. F. 9. T. 1.30 to 4 5
French—French 9. M. W. F. 10 3
Meteorology—Meteorology 1. T. Th. S. 10 3
Roads—Engineering 11. M. W. F. 10 3
History of Philosophy—Philosophy 5. M. W. F. 11. S. 9 . 4
Advanced Political Economy—Political Science 5. T. Th. S. 11 3
Chemical Laboratory—Chemistry 7. M. W. F. P. M. . . 3
Advanced Zoölogy—Zoölogy 6. M. W. F. P. M. . . . 3
Advanced Botany—Botany 3. M. W. F. P. M. 3
Advanced Drawing and History of Painting—Drawing 6*c*. M. W. F. P. M. 3
Landscape Gardening—Horticulture 9. By appointment . 3
Advanced Forestry—Forestry 2. By appointment . . 3
One Original Declamation—English 4.
Thesis Work.

THE PREPARATORY STUDIES.

The preparatory studies are intended to meet a demand which has been made in certain sections of the state where students have with difficulty secured adequate preparation for admission to the Freshman class. For further statement, see p. 18.

STUDIES AND SCHEDULE OF HOURS.

FIRST TERM.

Exercises per week

Higher Algebra. M. W. F. 3 3
Plane Geometry. T. Th. 3. W. F. 9 4
Rhetoric with Study of Authors. M. W. F. 11 . . . 3

For description of work, see Requirements for Admission, page 16.

French Grammar. T. Th. S. 9 3

A drill in the essentials for accurate translation.

Elementary Physics. T. Th. S. 11 3

SECOND TERM.

Higher Algebra. M. W. F. 3 3

Plane Geometry. T. W. Th. F. 8 4

Rhetoric, with Study of Authors. T. Th. S. 11 3

French Reader. T. Th. S. 9 3

Easy selections; irregular verbs.

Elementary Physics. T. Th. S. 11 3

THIRD TERM.

Study of Authors. M. W. F. 8 3

Readings from French History. T. Th. S. 9 3

Study of variety of style and peculiarities of syntax.

Elementary Physics. T. Th. S. 11 3

Introductory Botany. M. T. W. Th. F. 1.30 to 4 5

A general introduction to the study of plants by means of laboratory work and lectures.

Solid Geometry. T. W. Th. F. 8 4

THE TWO YEARS' COURSE IN AGRICULTURE.

The Two Years' Course in Practical and Theoretical Agriculture provided for by the legislature of 1895 was established for and is open to "students who can pass a fair and reasonable examination in reading, spelling, writing, arithmetic, English grammar, and the geography and history of the United States." This course is especially devoted to the study of practical and theoretical agriculture in its various branches, and the natural sciences, which are so closely related to successful farming. At least ten hours each week are spent in practical exercises, which, so far as possible, are educational in their nature. This work is done on the farm, or in the garden, barn, greenhouse, or shop.

The course offers unusual opportunities to young men to obtain in a short time and at small expense a knowledge of the fundamental principles of agriculture.

COURSE OF STUDY AND SCHEDULE OF HOURS.

FIRST TERM.

	Exercises per week.
Elements of Agriculture—Agriculture 1. T. Th. S. 11. F. 1.30	4
Principles of Plant Growth—Horticulture 1. M. T. Th. S. 8	4
Algebra. T. Th. S. 9	3
Grammar—English Grammar and Composition. W. F. 8	2
Drawing. M. T. 1.30 to 4	2
Physiological Anatomy—Agriculture 14	2
Military Tactics—Military Science 2. F. 11.	

SECOND TERM.

Dairying—Agriculture 2. By appointment	4
Breeds and Breeding—Agriculture 3. T. Th. S. 11	3
Algebra. T. Th. S. 9	2
Grammar. W. F. 9	3
Chemistry	2
Drawing. M. T. 1.30 to 4	2
General and Special Pathology—Agriculture 15	2
Military Tactics—Military Science 2. M. 11.	

THIRD TERM.

Botany. M. T. W. Th. F. 1.30 to 4	5
Commercial Fertilizers. W. F. 11	2
Physics. M. T. Th. S. 11. W. F. 9	6
Algebra. T. Th. S. 9	2
Contagious Diseases—Agriculture 16	2
Military Tactics—Military Science 2. T. 8.	

SECOND YEAR.

FIRST TERM.

Farm Equipment—Agriculture 4. W. F. 10. Th. 1.30	3
Olericulture—Horticulture 4. T. Th. S. 10	3
Introductory Zoölogy—Zoölogy 1. M. W. F. 1.30 to 4	3
English—English. M. W. F. 11	3
Geometry—Mathematics. W. F. 9. T. Th. 3	4
Military Tactics—Military Science 2. Th. 9.	

SECOND TERM.

Soil Physics—Agriculture 5. M. W. F. 9. Th. 1.30	4
Winter Gardening—Horticulture 5. M. W. 11	2
Arboriculture and Forestry—Horticulture 4. T. Th. 10	2
Comparative Anatomy—Zoölogy 5. S. 8	1

Animal Biology—Zoölogy 2. W. F. 1.30 to 4	2
English—English. T. Th. S. 11	3
Geometry—Mathematics. T. W. Th. F. 8	4
Farm Bookkeeping	3
Military Tactics—Military Science 2. Th. 9.	

THIRD TERM.

Stock Feeding—Agriculture 6. T. Th. S. 10	3
Fruit Growing—Horticulture. M. T. W. Th. 10	4
Entomology—Zoölogy 3. M. W. F. 1.30 to 4	3
English—English. W. F. 8	2
Plant Diseases—Botany 2. W. S. 11	2
Farm Crops—Agriculture 7	3
Military Tactics—Military Science 2. Th. 9.	

TEN WEEKS' WINTER COURSE IN AGRICULTURE

The college offers a Winter Course in Agriculture, beginning Tuesday, January 8, and continuing until Friday, March 22, 1901.

No entrance examination is required, but students taking the course should possess a common school education.

The studies offered are dairying, stock-feeding, winter gardening, wood-working, forestry, and entomology, with practice in the creamery, barn, greenhouse, or wood-shop.

A fee of five dollars will be charged for tuition.

The expense of the course may be estimated as follows:

Room and board, ten weeks, at $4	$40.00
Tuition fee	5.00
Books	3.00
Total	$48.00

Applicants should report at the president's office, Thompson Hall, Durham, on Wednesday, January 11, 1900.

TEN WEEKS' COURSE IN DAIRYING.

This course is offered in connection with the Winter Course in Agriculture, to young men who wish to make a specialty of dairying. It is designed for those who are specially desirous of mastering the art of butter-making, or who wish to become

fitted for the position of manager or superintendent of a creamery. In New Hampshire, where dairying is carried on to a great extent in the sale of milk for the city markets, this course is especially valuable as a training for those operating farm dairies.

The Course in Dairying begins January 8, 1901, and closes March 22. The subjects taught are butter-making, milk testing, pasteurizing milk and cream, dairy bacteriology, dairy farming, dairy chemistry, and care of steam engines and boilers.

The creamery is equipped with separator, milk tester, pasteurizer, and all tools required in making butter and preparing milk and cream for market.

Requirements for admission are the same as for the Winter Course in Agriculture.

ESTIMATE OF EXPENSES.

Room rent, ten weeks, at $1 . . .	$10.00
Board, ten weeks, at $3	30.00
Fee	5.00
Books	3.00
Total	$48.00

For circulars or further information concerning these courses address Prof. C. W. Burkett, Durham, N. H.

COURSES OF INSTRUCTION.

BUTTER-MAKING.

INSTRUCTOR WELD.

This course includes all the practical operations of creamery management. The student works with the guidance and under the direction of the instructor at the same operations of butter-making, or pasteurizing, or milk-testing until proficiency is obtained. He is required to follow the milk from the time it enters the laboratory and creamery until the finished product leaves it, and to determine the points in processes where losses occur and the reasons why they occur.

(Required for Dairy and Winter Course students.)

MILK AND BUTTER PRODUCTION.

ASSISTANT PROFESSOR JOHNSTON.

INSTRUCTOR WELD.

This course consists of lectures and recitations on the methods of taking care of milk and the manufacturing of it into other products. Also, lectures upon the construction, equipment, and operation of creameries, dairies, and milk depots. Each student is required to draw a plan of a farm dairy and creamery and prepare an estimate for the equipment of the same.

(Required course for Dairy Students.)

THE CHEMISTRY OF MILK AND BUTTER.

PROFESSOR MORSE.

The course in dairy chemistry is planned to give the student a knowledge of the chemistry of the compounds that form milk and of the various operations in the manufacture of dairy products, including butter, cheese, cream, and condensed milk, and technical products, such as casein and milk sugar. The lectures will be illustrated as far as practicable by experiments.

(Required for Dairy and Winter Course students.)

DAIRY FARMING.

PROFESSOR BURKETT.

Lectures are given under this subject upon the history, adaptation, care, and management of different breeds of dairy cattle. Dairy animals are studied by the student with the use of the score-card, in accordance with the practice of judging animals for dairy purposes.

Instruction will also be given upon the character of foodstuffs, the relation of the food to the animal, and the kind and quantity of food for the best milk production.

(Required for Dairy and Winter Course Students.)

BACTERIOLOGY.

DR. LAMSON.

The course in bacteriology will embrace study of text-book and recitations, lectures and demonstrations covering the more important facts in the relation of bacteria to dairying.

Practical instruction will be given in sterilizing and pasteurizing milk and cream, also in the making and use of cultures or "starters" for ripening cream.

(Required for Dairy and Winter Course students.)

WINTER GARDENING.

PROFESSOR RANE.

This course covers the growing, handling, and marketing of crops suitable for forcing in winter under glass. The college greenhouses will be utilized for practical demonstration. Besides the forcing of vegetables, greenhouse construction—types and forms of houses, different methods of heating, cost of forcing-houses, soils, fertilizers, composts, sub-irrigation, ventilation and shading, forcing crops by the use of electric light, pollination, as well as combating insects and diseases—will be taught, and illustrated as far as practicable.

(Winter Course in Agriculture.)

DISEASES OF CATTLE.

MR. IMES.

The lectures on this subject consist of the anatomy of the cow, with special reference to the digestive, reproductive, and milk-producing organs; and the more common non-infectious diseases and their treatment.

(Required for Dairy and Winter Course Students.)

ENTOMOLOGY.

PROFESSOR WEED.

This is a short course in which the more important noxious insects are studied with special reference to methods of preventing their injuries. The various insecticides and the methods of spraying are also included in the course.

(Required in Winter Course in Agriculture.)

FEEDS AND FEEDING.

PROFESSOR BURKETT.

This subject will consist of an elementary study of the composition of food; the constituents of feeding materials, amount, combination, and form necessary to give best results with the various kinds of livestock. The students are required to calculate digestibilities and nutritive ratios of different foods and to arrange therefrom proper feeding rations.

(Dairy and Winter Course in Agriculture.)

CARE OF STEAM ENGINES AND BOILERS.

MR. E. H. HANCOCK.

This course is intended to give the student a practical knowledge of the application of steam for power production.

The classroom work is supplemented by demonstrations of the best practice in handling and caring for a steam engine and boiler.

(Required for Dairy Course students; optional to others.)

ARBORICULTURE AND FORESTRY.

PROFESSOR RANE.

This course is intended to give the student a knowledge of the various methods of forestry management in the old world as well as in this country. The text and lectures will cover the use of trees for shelter, shade, and ornament, and their propagation; value of trees for timber; how to improve existing woodlands; influence of forests upon soils, crops, and climate; establishment and management of plantations of forest trees.

(Winter Course in Agriculture.)

GENERAL INFORMATION.

ATTENDANCE.

All regular students are required to attend chapel and rhetorical exercises, and to register for the required number of exercises per week; all male students are required to attend military drill.

TERM BILLS.

Tuition and fees are payable in advance, in two equal installments: One on the first day of the fall term, and one on the first day of the winter term, of each year.

ELECTION OF STUDIES.

Every student must, on the Saturday before the last in each term, notify in writing the secretary of the faculty of his elections for the term following. Any student who, having made his elections, desires to change, shall make application to the faculty in writing, with a statement in full of his reasons.

Any student who fails to fill out his elective slip on or before the date mentioned must pay a fine of one dollar before he can be registered for the studies of the next term, unless he has previously obtained from the secretary of the faculty a written excuse for delay.

No student shall be registered in any class until he has completed three fourths of the work of the preceding year, and all the work required up to the beginning of that year.

DEGREES.

The degree of Bachelor of Science will be conferred upon those who complete a four years' course or its equivalent.

The regular work of the Senior class, including the regular final examinations, is completed at 4 P. M. on the Tuesday of

the week preceding Commencement; and each member of the class may receive a statement of his standing at the office of the secretary of the faculty at 2 P. M. on the next day, Wednesday. All work required for graduation must be completed by 6 P. M. of the Saturday of the same week.

Each candidate for a degree must prepare a thesis on some subject relating to the studies he has taken.

After the satisfactory completion of an appropriate amount of post-graduate work, advanced degrees will be given.

POST-GRADUATE STUDY.

The college offers opportunities for post-graduate study in agriculture, biology, chemistry, and engineering.

SPECIAL STUDENTS.

Any person of mature years may be admitted as a special student, by vote of the faculty, upon presenting satisfactory evidence of ability to complete the desired course of study.

COURSES FOR WOMEN.

Women attending the college may elect any course laid down in the curriculum, subject to the conditions prescribed for all students. They may omit manual labor on the farm and in the shop, and substitute other studies.

The General Course, with its electives, is specially prepared for women, and is so planned that special courses may be arranged in literature, languages, history, philosophy, drawing, and manual training.

The courses in agriculture and chemistry afford opportunities for the study of the natural sciences, and the engineering courses offer exceptional advantages in mathematics and physics.

PRIZES.

I. The Smyth Prizes.—Through the provisions of the will of Hon. Frederick Smyth, the following prizes are offered: To the members of the Senior and Junior classes, two prizes, one of twenty dollars and the other of ten, for the best

essays on subjects connected with agriculture or the mechanic arts; also three prizes, one of twenty, one of fifteen, and one of ten dollars, for excellence in oratory. To the members of the Sophomore and Freshman classes, two prizes for reading, one of fifteen and one of ten dollars.

II. Bailey Prize.—Dr. C. H. Bailey, of Gardner, Mass., and E. A. Bailey, B. S., of Keene, N. H., offer a prize of ten dollars for proficiency in chemistry.

III. Erskine Mason Memorial Prize.—Mrs. Erskine Mason, of Stamford, Conn., has invested one hundred dollars as a memorial of her son, a member of the class of '93, the income of which is to be given, for the present, to that member of the Senior class who has made the greatest improvement during his course.

IV. Entrance Examination Prize of $500. See Valentine Smith Scholarships, page 67.

BUILDINGS.

THOMPSON HALL.

Thompson Hall, the main college building, has a length of 128 feet, exclusive of a *porte-cochère* 40 feet long, and a width of 93 feet in the widest part. It is built of granite and brick, and has three stories besides the basement.

One half of the first floor and basement is devoted to the library, which is provided with a large, well-lighted reading room for papers and magazines, a reference room for special work, a librarian's room, a delivery room, and shelf space for fifty thousand volumes.

The remainder of the first floor is used for offices, recitation rooms, and a waiting room for women.

On the second floor are more offices and recitation rooms, as well as the botanical and zoölogical laboratories.

On the third floor is the large hall used as an auditorium, two literary society rooms, and the bell-boy's room.

The building is lighted by gas and electricity, and provided with the most approved system of heating and ventilation.

CONANT HALL.

[Chemical and Physical Laboratories.]

Conant Hall contains the laboratories and lecture rooms for instruction in chemistry, physics, and electrical engineering. It is a substantial brick building, 92 by 70 feet, and three stories high, including the basement. It is heated by steam brought from the shops, lighted by gas and electricity, and provided with a system of thorough ventilation. Water, gas, high pressure steam, hydrogen, oxygen, vacuum, and blast are supplied through pipes whenever needed, and the lecture rooms in addition have switches controlling both dynamo and battery currents, and arrangements for stereopticon illustration.

The basement contains a small workshop, the battery, photometer, photographic and comparator rooms, a clock room protected by double walls against changes in temperature, an acid room, and a water and gas laboratory, provided with the necessary fixtures and appliances.

The first floor, with the exception of one room, is occupied by the physics department. It contains the mineralogical laboratory, which is provided with tile-covered desks and other facilities for blowpipe analysis; the junior physical laboratory; an apparatus room; a reading room and reference room for physical and electrical books and periodicals; an electrical laboratory, from the neighborhood of which masses of iron have been excluded, so that magnetic measurements can be made with a good degree of accuracy; and the physical lecture room, which is provided with all necessary conveniences, as before mentioned. For optical experiments, the room can be darkened by means of special window-shutters, operated from one of the lecture desks. A stone pier between the two desks makes it possible to use delicate instruments.

The second floor is given up entirely to the chemical department. It contains storerooms, an organic laboratory, a qualitative laboratory, a private laboratory, a dark room for polariscopic and spectroscopic work, a lecture room provided

with facilities as before described, a quantitative laboratory, and a room to contain the delicate chemical balances and most important reference works.

The laboratories are fitted up with the most modern accessories, and with special reference to the kind of work to be performed in each.

WORKSHOPS AND ENGINEERING LABORATORY.

The shops have been planned and built with the object of providing facilities for instruction in the working of wood and metals, and in the design, construction, care, and management of machinery. Incorporated with the shops is a central station for furnishing heat, light, water, and power, wherever needed in any of the college buildings; and the machinery of this station forms a part of the material equipment of the engineering departments.

The main shop building is 42 by 106 feet, and two stories high, with a basement 31 by 42 feet. In a separate one-story building, 40 by 100 feet, on a level with the basement of the main building, are the boiler house, forge shop, coal shed, and foundry.

In the boiler room, three boilers, aggregating one hundred and sixty horse-power, furnish steam to all the college buildings, wherever needed for heating or power. A brick chimney 95 feet high carries away the waste gases from the furnaces. The coal room provides for the storage of two hundred tons of coal conveniently near the boilers.

The basement of the main building is used as an engine room and laboratory, containing a forty horse-power engine, furnishing power for the shops and for the electric lighting; a dynamo for lighting the college buildings and campus; an eight horse-power, shaft governor slide valve engine; a direct acting steam pump; and the large compound duplex steam pump which receives water by gravity from a reservoir one half mile distant and forces it through underground mains to the various hydrants and buildings or over a rectangular weir where it is measured.

Nesmith Hall—The Experiment Station Building.

JSL.

The engine room serves as a power laboratory, and the machines and boilers mentioned, with others, are fitted to give the student opportunity for becoming familiar with the generation, distribution, and use of steam, for valve setting, both with and without the indicator, and for making efficiency tests.

During the present year a five horse-power gasoline engine is available for testing. Tests will be made to ascertain the cost of running per indicated and per brake horse-power. Tests will also be made to determine the cost of running isolated electric light plants. For this work the fifty-five-light Edison dynamo will be run by the engine.

Among other apparatus is a steam engine indicator tester of one of the latest patterns, and a 50,000-pound Olsen testing machine with the necessary appliances for testing cast-iron, wrought iron, steel, or composition in tension; also for transverse and compression tests.

In connection with the boiler tests, careful analysis is made of the flue gases by means of the Orsat apparatus, and temperatures taken by thermometers reading to 1,000 F.

A ten-inch standpipe furnishes means for hydraulic tests, such as flow of water from various sizes and shapes of orifices, under different heads.

The laboratory contains the usual equipment of gauges, thermometers, scales, etc.

In addition to the instruction given in the laboratory, excursions are made to various outside power plants, and when practicable, tests are made, thus enabling the student to become familiar with various types of engineering practice.

On the first floor of the main shop building, a lavatory is provided. The largest room on this floor is the machine shop, where there is opportunity for practice in the operations of working metals by cutting tools, both by hand work and by machinery.

The second floor of this building is mainly occupied by a wood shop, in which the common branches of carpentry, joinery, and pattern making are taught. Practice is given in the

use of carpenters' tools, and in the care and operation of the machines of most general use in wood-working.

The forge shop is fitted with forges and tools of the latest pattern and instruction is given in forging, welding, tempering, and riveting.

In the molding room the student is taught to mold and cast from the various patterns made in the wood shop.

The shop buildings are constructed on the "slow-burning" principle, with thick walls, and heavy, continuous plank floors. The rooms are all well lighted and well ventilated.

APPARATUS.

The various chemical laboratories are supplied with a full line of such apparatus as is required in each. Besides all necessary glass and porcelain ware, this includes water baths, drying ovens, combustion, muffle and assay furnaces, platinum dishes and crucibles, polariscope, spectroscope, balances, lantern, and other lecture appliances, etc.

The physical laboratory is equipped with a good collection of the usual apparatus for laboratory work and lecture-room illustration, to which will be continually added pieces purchased or made in the college shop.

In the Junior laboratory of physics there has been added apparatus for studying absorption phenomena and the comparison of spectra of films, liquids, metals, etc.; for measuring the angles of crystals and indices of refraction; for verifying the laws of refraction and total reflection of light; for determining the moment of inertia of various forms of specimens.

In electricity and magnetism, the equipment includes instruments of high precision and of the latest forms, such as: a magnetometer for studying the intensity of the earth's magnetism; a universal tangent galvanometer capable of assuming a variety of forms and measuring currents from a small fraction of an ampere to one hundred amperes; a high grade four-spool Thomson reflecting galvanometer; a Ryan electrometer for tracing pressure and current waves; a standard ballistic galvanometer; an Ayrton & Perry's variable standard of self-

Experiment Station Laboratory.

JCL.

induction, as well as others of less accuracy for elementary work; a Sorley storage battery of twenty-six cells; a complete photometer equipment for comparing incandescent and arc lamps, and the distribution of light from the latter for both open and inclosed arcs; a small low-potential testing unit, consisting of a universal alternator belted to a direct current motor and capable of adjustment to be driven from either the direct or alternating side; a low-potential transformer, either side arranged to be connected to the universal alternator or to the secondary of the transformer on the lighting system; a bank of lamps for illustrating the various methods of distributing from mains for lighting systems, or affording loads in obtaining characteristics, efficiencies, etc.; and standard forms of voltmeters and ammeters.

For more strictly electrical engineering work, the department has the five-hundred-light alternator used in lighting the college buildings, a direct-current "exciter" dynamo, all the apparatus of a complete fifty-five-light Edison isolated electric lighting plant, arc and incandescent lamps, and standard forms of voltmeter, ammeter, and transformer.

The zoölogical laboratory is well supplied with aquaria, microscopes, dissecting tools, charts, reference books, collections, etc.

The botanical laboratory is supplied with a good herbarium, microscopes, and the other necessary appliances.

The surveying instruments are sufficient in number and of the most approved pattern.

MUSEUM.

The museum had for a nucleus the collections made during the state geological survey. To this additions have been made from various sources. Many specimens are being collected to illustrate zoölogy—especially entomolgy.

LIBRARY.

The library of the college consists of about nine thousand bound volumes and five thousand pamphlets. A considerable

part of these are new and expensive books, making good working libraries for the different departments of instruction, including economic science and English and American literature.

Students also have the free use of the Durham public library of about six thousand well-selected volumes.

The college supports a reading room, which is well supplied with the leading American and foreign periodicals.

FARM.

The farm contains more than three hundred acres of valuable land. It has been provided partly from the funds given by Hon. John Conant, and partly from the Benjamin Thompson estate.

It is used for the purpose of an experiment station, for which it is considered by leading agriculturists to be especially fitted.

A model barn has been erected, at an expense of about ten thousand dollars.

SITUATION AND RAILROAD CONNECTIONS.

Durham is situated on the Western division of the Boston & Maine Railroad, sixty-two miles from Boston, and about midway between Rockingham Junction and the city of Dover, being five miles from the latter place.

PECUNIARY AID AND EXPENSES.

Tuition is $60 per year, although numerous scholarships give free tuition to many New Hampshire students.

CONANT SCHOLARSHIPS.

There are thirty Conant scholarships, each paying $40 and tuition, $60,—total, $100. These are to be assigned under the following conditions:

1. They are to be given to young men taking an agricultural course.

2. Each town in Cheshire county is entitled to one scholarship, and Jaffrey is entitled to two.

3. Scholarships not taken by students from Cheshire county, and those in excess of the number of towns, are to be assigned to agricultural students at the discretion of the Faculty.

SENATORIAL SCHOLARSHIPS.

There are twenty-four senatorial scholarships,—one for each senatorial district. Each scholarship is to pay tuition, $60. Senatorial scholarships not filled can be assigned to students from other localities at the discretion of the Faculty; they are open to students in all courses.

Early application should be made for these scholarships. They will be reserved for those respective towns and districts until August 1 of each year, after which they may be otherwise assigned for the year.

These scholarships are given for the purpose of aiding deserving students, and will be withdrawn from those who use tobacco or intoxicating liquors, or show themselves not deserving. Janitorships, work on the farm, etc., also furnish assistance to a considerable extent.

VALENTINE SMITH SCHOLARSHIPS.

Through the generosity of the late Mr. Hamilton Smith of Durham, the sum of $10,000 has been given to the college to establish the Valentine Smith scholarships.

"The income thus accruing to the college shall be given to the graduate of an approved high school or academy who shall, upon examination, be judged to have the most thorough preparation for admission to the college, provided,

"That this income shall be paid to the student to whom it is awarded, in eight semi-annual payments, at the time appointed for the payment of term bills; and,

"That if the student receiving this scholarship shall at any time prove unworthy, in the judgment of the faculty, by

reason of defective scholarship or character, he shall forfeit his claim to the student most deserving; and,

"That if the student receiving this scholarship shall cease to be a member of the college, the income from this fund, for the unexpired term, shall be awarded to the student most deserving, in character and scholarship."

These scholarships, yielding $500 each, became available to those applying for examination in 1898, and to one student in each succeeding class.

Competitive examinations for this scholarship will be held at the college at the time of the entrance examinations in September, and at no other time.

ESTIMATE OF EXPENSES.

Tuition	Free	$60.00
Text-books	$10.00	20.00
*Fees	15.00	15.00
Room rent, including fuel . . .	18.00 to	40.00
Board, $3 to $3.50 per week, for 35 weeks	105.00 to	122.50
Total	$148.00	$257.50

Room rent is estimated on the supposition that two students occupy the same room or suite of rooms.

Rooms may be obtained either furnished or unfurnished. Most of the rooms are in suites, and are in buildings provided with heating apparatus and bath rooms.

The college has no rooms for students.

In Q. T. V. Hall the expense of the best suites, with heating, is $70 per year.

For further information, address President Charles S. Murkland, or Prof. C. M. Weed, secretary of the Faculty.

*Including all charges commonly considered for extras, except those for breakage and damage to college property.

AGRICULTURAL EXPERIMENT STATION.

This department of the college is provided for by the National Government, at an annual expense of fifteen thousand dollars.

The Act of Congress provides,—

"That it shall be the object and duty of said Experiment Stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping, as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states and territories."

NESMITH HALL.

Nesmith Hall, a brick building two stories in height, is used for the work of the Agricultural Experiment Station. It contains offices and working rooms, a reference library, a chemical and an entomological as well as a bacteriological and microscopical laboratory.

BOARD OF CONTROL.

Hon. JOHN G. TALLANT, *Chairman* .	Pembroke.
Hon. GEORGE A. WASON . . .	New Boston.
CHARLES W. STONE, A. M., *Secretary* .	East Andover.
HENRY W. KEYES, A. M. . . .	Haverhill.
Pres. CHAS. S. MURKLAND, *ex officio* .	Durham.

STATION COUNCIL.

CHARLES S. MURKLAND, A. M., Ph. D., D. D., *President and Acting Director.*
FRED W. MORSE, M. S., *Chemist and Vice-Director.*
CHARLES H. PETTEE, A. M., C. E., *Meteorologist.*
HERBERT H. LAMSON, M. D., *Bacteriologist.*
CLARENCE M. WEED, D. Sc., *Entomologist.*
FRANK WILLIAM RANE, B. Ag., M. S., *Horticulturist.*
CHARLES WM. BURKETT, M. Sc., Ph. D., *Agriculturist.*
FREDERICK S. JOHNSTON, B. S., *Associate Agriculturist.*

WILLIAM F. FISKE, *Assistant Entomologist.*
CLARENCE W. WAID, B. S., *Assistant Horticulturist.*
HARRY A. CLARK, B. S., *Assistant Chemist.*
HARRY P. RICHARDSON, B. S., *Assistant Agriculturist.*
MARION IMES, M. S., *Assistant in Dairying and Veterinary Science.*
DAVID B. BARTLETT, B. S., *Assistant in Biology.*

PRIZE RECORD FOR 1900.

SMYTH PRIZES.

GIVEN BY HON. FREDERICK SMYTH.

Speaking:

1st. BLANCHE M. FOYE.
2d. MARIE L. ROBERTSON.
3d. DAVID B. BARTLETT.

Reading:

1st. A. W. HANCOCK.
2d. GEORGE W. GRAY.

SMYTH PRIZE ESSAY.

BLANCHE M. FOYE.

BAILEY PRIZE.

GIVEN BY DR. C. H. BAILEY, OF GARDNER, MASS., AND E. A. BAILEY, B. S., OF KEENE.

ALVENA PETTEE. MARIE L. ROBERTSON.

ERSKINE MASON MEMORIAL PRIZE.

E. E. NELSON.

SENIORS STANDING HIGHEST IN THE MILITARY DEPARTMENT.

E. E. NELSON. W. N. SHIPLEY.
C. E. STILLINGS.

WINNER OF INDIVIDUAL PRIZE DRILL.

E. W. BURBECK.

ROSTER OF THE BATTALION OF CADETS.

Major C. L. Hunt.
Adjutant H. H. Calderwood.
Quartermaster N. A. Rollins.
Sergeant-Major E. W. Burbeck.

Company A.

Captain R. McA. Keown.
1st Lieut. H. W. Evans.
2d Lieut. E. W. Gilmartin.

1st Sergt. G. E. Merrill.

SERGEANTS.

A. A. Livermore.
R. H. Rollins.
R. A. Cushman.
F. L. Hill.

CORPORALS.

F. L. Hadley.
A. Conner.
H. D. Batchelor.
R. H. Pearson.
H. D. Verder.
M. J. White.

Musician J. M. Towle.

Company B.

Captain H. M. Runlett.
1st Lieut. H. G. Farwell.
2d Lieut. C. A. Payne.

1st Sergt. J. C. Kendall.

SERGEANTS.

H. M. Lee.
E. P. Runlett.
E. F. Bickford.
M. A. Stewart.

CORPORALS.

F. R. Brown.
G. C. Wilkins.
D. A. Watson.
A. N. Otis.
H. M. Wiggin.

Musician E. G. Davis.

ENTRANCE EXAMINATION PAPERS.

ALGEBRA.

1. Add $\frac{3}{2}a^2x^{\frac{1}{2}} - \frac{7}{3}\sqrt{x}$ and $a^2 + 3ax^{\frac{1}{2}} - 5a^2x - \frac{1}{3}ax^{\frac{1}{2}} - 2a^2x^{\frac{1}{2}}$.

2. Multiply $(-3ax)$, $(-\sqrt{ax})$, $(\sqrt{-ax})$, $(\sqrt{-ax})$, $(\sqrt{bx})$.

3. Divide $2a^4 + 11a^3x + 20a^2x^2 + 13ax^3 + 2x^4$ by $a^2 + 3ax + 2x^2$.

4. Factor $a^3 - b^3$, $a^3 + b^3$, $a^6 + y^{-9}$, $a^2 + 6a + 8$, $a^2 + 3ab + 2b^2$.

5. A boy had three times as many apples as oranges; he sells 50 apples and 15 oranges, and then has left twice as many apples as oranges. How many of each had he at first?

6. $3x - 4y = 6$ and $2y - 7x = 10$. Solve for x and y.

7. The average age of A, B, and C is a. The average age of A and B is b and of B and C is c. What are their ages?

8. $(\frac{3}{2}ax^{\frac{1}{2}})^{\frac{1}{2}}$, $(a - b)^4$, $(x + 2y - 4z)^2$. Perform the operations indicated.

9. $2x^2 - 5x + 10 = 0$. Solve for x.

10. $\left.\begin{array}{l} x^3y^2 + x^2y^3 = -4 \\ x^2y + xy^2 = 2 \end{array}\right\}$ Solve for x and y.

ARITHMETIC.

1. $\dfrac{3\frac{1}{4} + 1\frac{1}{2} \div \frac{2}{3}}{6\frac{1}{2} - \frac{3}{4} \times \frac{4}{3}} = ?$ What is a fraction?

2. Find the least common multiple and highest common divisor of 8, 12, and 40.

3. Find the square root of 329.045.

4. At 3 cts. a pint how much would $1\frac{1}{4}$ bushels of peanuts cost?

5. How many ounces avoirdupois in 2 tons, 53 pounds?

6. $4.216 \times .004 \div .0005 - .000042$.

7. $1,000 includes a sum to be invested and a commission of 5 per cent of the sum to be invested. What is the sum to be invested?

8. Find the simple, annual, and compound interest of $200 for 3 years, 3 months, and 3 days at 6 per cent.

9. Define a meter; a liter; a gram.

10. Add 125 meters, 17.06 kilometers, .071 kilometers, 3,000 millimeters.

11. How many coins, weighing 5 grams each, can be made from a cubic decimeter of metal whose specific gravity is 10?

12. A cubical cistern holds 1,331 kilograms of water; what is the length of an inner edge?

BOTANY.

1. What are the three principal parts of a plant, and what does each do for the plant?

2. What is the embryo; of what parts does it consist? Where does the root originate? What part of the root takes food material from the soil?

3. What are the principal steps or periods in the life history of a plant?

4. Define node, internode, petiole, peduncle, stipule, bract, axil of leaf, compound leaf.

5. Draw diagrams of the following leaves: (*a*) entire ovate; (*b*) lanceolate serrate; (*c*) lobed; (*d*) palmately cleft; (*e*) pinnately parted.

6. Draw diagrams of the following forms of inflorescence: raceme, spike, head, umbel, cyme.

7. Name five of the earliest blooming plants of New Hampshire and five which have their flowers in catkins.

8. To what families do the following plants belong: cucumber, peach, lettuce, cabbage, potato, corn, onion, celery, clover, strawberry?

9. How would you distinguish between an elm and an oak, a pine and a hemlock, an ash and a hickory?

10. What is the difference between a fruit and a seed?

ENGLISH.

The composition must be correct in spelling, grammar, and punctuation.

I.

Select any *four* of the following topics and write a short composition on each:

1. The Speech of Nestor.
2. The Death of Hector.
3. Expedition of Theseus against Thebes.
4. Sir Roger in Love.
5. Moses Primrose.
6. The Flight of Hepzibah and Clifford.
7. The Return of the Knight.
8. The Albatross and the Becalmed Ship.

II.

Omit *one.*

1. The Arguments Advanced in the Council of Pandemonium.
2. Macbeth and Lady Macbeth Compared.
3. Carlyle's Estimate of Burns.

FRENCH.

1. (*a*) Synopsis: first person singular, *vouloir;* third singular, *aller;* third plural, *finir.* (*b*) Principal parts, *faire, venir, mettre, voir, prendre.*

2. Give the feminine singular of the following adjectives: *vieux, beau, blanc, gros, doux.* Translate "a beautiful bird," "my old friend."

3. Translate (1) Have you given him any money? (2) This book is better than mine. (3) They lost their mother a week ago. (4) I have no sugar. (5) Give me this pen, if you please. (6) I shall see him tomorrow, and he will give it to me. (7) I fear that you will lose the money which I have given to you. (8) She has gone to Boston today, but she will be in Durham tomorrow. (9) The woman whom we have

seen in the garden is very young. (10) He arrived in America June 4, 1899. (Write out the date.)

4. Translation at sight.

GRECIAN HISTORY.

1. Give an account of society in the heroic age.

2. Describe the people, government, and characteristics of Sparta.

3. Sketch the life of each of the following: Themistocles, Demosthenes, Pericles, Socrates.

4. Give an account of the battle of Marathon.

5. What were the circumstances, causes, and results of the formation of the confederacy of Delos?

6. Describe the Attic comedy.

7. Give an account of three engagements which took place at or near Platæa.

8. Locate and, with a sentence for each, describe the following: Eubœa, Sybaris, Corcyra, Naxos, Tyre, Thrace, Corinth, Delphi, Hellespont, Lydia.

PHYSICAL GEOGRAPHY.

1. Is it now seed-time, or harvest-time, in the Transvaal?

2. Is it now day, or night, in Manila?

3. Describe the climate of Havana, Pekin, and Cape Nome.

4. State the causes of the variations in season, climate, day, and night.

5. Describe the trade-winds.

6. What ocean currents produce the fogs on the Grand Banks? Why?

7. What causes the high tides in the Bay of Fundy?

8. Describe the principal physical divisions of the United States.

9. Describe the largest river-system in the world.

10. Show the relationship between New Hampshire's physical features and the occupations of its people.

PHYSICS.

1. What is motion? Show how motion is purely relative. A pendulum at the highest point of its path is at rest; what has become of the energy it possessed when moving? Show by illustrations that energy when transformed is not all available. In what two ways may we recognize a force? The mass of a given train is one million pounds; how much work must the engine do simply to get the train up to a speed of thirty miles an hour, regardless of resistance? A uniform straight lever, ten feet long, balances at a point three feet from one end; when twelve pounds are hung from this end, and an unknown weight from the other, find the unknown weight, if the lever itself weighs eight pounds.

2. Outline the accepted theory of heat. What is meant by the temperature of a body? Explain what occurs when a pond freezes over, and show how fish-life is preserved by this provision of nature. Explain conduction, convection, and radiation of heat.

3. What relation is there between heat and light? What obvious distinction? How is the path of light revealed in a dark room? How much deeper is water immediately under a bather than it appears to be? Describe the appearance of water to one looking outward from the shore. Explain the decomposition of white light by a prism.

4. In what does sound have its origin? Explain the nature of the transmission of sound. Why can sounds often be heard farther at night than by day? Explain what is meant by the harmonics of a vibrating string.

5. Describe the mariner's compass. Why does not a freely floating magnetic needle move bodily toward the north magnetic pole? Explain how water may be decomposed by an electric current. Why are not birds on a telegraph wire killed by the passage of a current?

PLANE GEOMETRY.

1. Define a point, a line, a surface, a solid, geometry, a theorem, a problem, an axiom, an angle, supplementary angles.

2. Theorem: A perpendicular is the shortest line that can be drawn from a point to a straight line.

3. Theorem: If two parallels are cut by a transversal the alternate interior angles are equal.

4. Define quadrilateral, trapezoid, parallelogram, polygon, circle, radius, chord, secant, tangent, inscribed angle.

5. Theorem: The sum of the angles of any polygon is equal to $(n—2)$ times two right angles, when n is the number of sides of the polygon.

6. Theorem: The diameter perpendicular to a chord bisects the chord and its subtended arcs.

7. Theorem: The opposite angles of an inscribed quadrilateral are supplementary.

8. Problem: Construct a square on a given diagonal.

9. Problem: Construct a line equal to $\sqrt{2}$

ROMAN HISTORY.

1. What do we actually know about the early history of Rome?

2. What were the early Roman laws of debtor and creditor?

3. Give the history of the First Punic War.

4. Give a brief but comprehensive account of each of the following: Cæsar, Cicero, Catiline, Jugurtha, Sulla, Pyrrhus, Cleopatra, Mithridates, Vespasian.

5. Give an account of the founding of Constantinople.

6. State fully the causes of the decline of the Roman Empire.

7. Give the facts which bear upon Roman agriculture.

8. Locate and with a sentence for each describe the following: Pontus, Caucasus, Cyprus, Rhine, Rhone, Sicily, Adriatic, Armenia, Constantinople, Syracuse.

UNITED STATES HISTORY.

1. Give an account of the explorations of each of the following: Balboa, Ponce de Leon, Coronado, Gosnold.

2. Give the time and cause of the founding of each of the colonies in the New England states.

3. Give all additional facts necessary to show how each of the New England states was settled and admitted to the Union.

4. Describe the characteristics and social life of the people of the northern colonies; of the middle colonies; of the southern colonies.

5. Give the history of the New England Confederation.

6. Explain the acquisition of each territory not included in the thirteen original colonies.

7. Give the substance of the military operations against Richmond during the Civil War.

8. Give an account of three articles coming under the head of sources of American history.

9. Give some account of five works of authority as histories of the United States.

ALPHABETICAL LIST OF ALUMNI WITH YEAR OF GRADUATION.

Adams, E. E., 1878.
Adams, G. E., 1885.
Adams, F. S., 1895.
Adair, R. K., 1877.
Aldrich, H. C., 1876.
Aldrich, W. H., 1875.
Aldrich, T. E., 1881.
Alden, R. S., 1885.
Angier, W. E., 1885.
Andrews, H. P., 1900.
Arnold, E. F., 1883.
Bailey, C. H., 1879.
Bailey, E. A., 1885.
Ballard, W. P., 1871.
Baker, H. C., 1899.
Barker, P. L., 1892.
Barnard, H. E., 1899.
Barnard, H. L., 1881.
Barney, H. W., 1897.
Bartlett, Miss C. A., 1897.
Bartlett, Miss M. B., 1897.
Bartlett, D. B., 1900.
Bartlett, E., 1872.
Bickford, P. G., 1885.
Bigelow, F. L., 1883.
Birtwhistle, F. S., 1883.
*Boardman, G. J., 1881.
Boutwell, H. L., 1882.
Brigham, E. L., 1876.
Brill, A. W., 1885.
Bristol, E. F., 1881.
Bristol, N. D., 1883.
Britton, F. C., 1895.
Britton, W. E., 1893.
*Brooks, H., 1877.
Brooks, P. C., 1885.
Brown, B. S., 1894.
Bryant, F. J., 1893.
Brigham E. L., 1876.
Buck, W. F., 1897.
Bugbee, D. J., 1882.
Burleigh, A. T., 1881.
Burleigh, R. F., 1882.
Burnham, Miss F., 1900.
Butterfield, J. W., 1876.
*Butterfield, R. C., 1898.
Buzzell, Miss H., 1898.
Carpenter, L. J., 1882.
Carr, M. B., 1888.
Carson, J. W., 1877.
Caverno, Miss B. E., 1898.
Chamberlin, A. F., 1876.
Chapin, R. C., 1879.
*Chubert, C. O., 1877.
Clement, H. E., 1899.
Colby, F. H., 1889.
Colby, I. A., 1899.
Cole, E. G., 1891.
Colburn, A. W., 1897.
Comings, Miss C. L., 1897.
Comings, F. P., 1883.
*Comings, Miss M. E., 1897.
Corbett, B. A., 1898.
Cragin, L. M., 1879.
Cross, A. B., 1876.
*Cummings, E. S., 1884.
Currier, W. S., 1887.
Curtis, F. P., 1875.
Davis, F. A., 1886.
Davis, F. C., 1884.
Davis, H. G., 1888.
Dennett, I. L., 1897.
Dewey, E. P., 1882.
Durell, F. J. (2 yr.), 1900.
Durgin, A. C., 1898.
Eldredge, F. E., 1873.

* Dead.

Elliot, H. A. (2 yr.), 1900.
Ely, F. D., 1881.
Emerson, F. J., 1885.
Emerson, F. V., 1875.
*Edwards, C. A., 1877.
Emery, S. E., 1881.
Everett, R. M., 1891.
Flint, W. F., 1877.
Follansbee, F. H., 1883.
Foord, J. A., 1898.
Foster, S. M., 1884.
Forristall, E. H., 1897.
Foye, Miss B. M., 1900.
French, A. C., 1883.
Fuller, F. D., 1892.
Fullerton, J. W., 1898.
Gay, J. E., 1883.
Gerrish, E. C., 1888.
Gillis, L. C., 1889.
Given, A., 1898.
Gunn, F. W., 1894.
Hall, C. C., 1877.
Hancock, E. H., 1898.
Hardy, A. W., 1887.
Hardy, C. W., 1875.
Hardy, M. F., 1874.
Harvey, J. E., 1886.
Hayes, L. D., 1897.
Hayes, Miss M. L., 1898.
Hayden, W. D. F., 1899.
Hazen, A., 1885.
Hazen, C. H., 1881.
Hazen, W. N., 1888.
Henry, J. G., 1877.
Hewitt, C. E., 1893.
Hill, H. E., 1894.
Hills, E. A. (2 yr.), 1900.
Hirakawa, T., 1898.
*Hollister, C. P., 1877.
Holman, G. M., 1877.
*Holmes, N. C., 1879.
Hood, C. H., 1880.
Horton, F. L., 1899.
Hough, A. B., 1892.
Howe, F. W., 1894.
Hubbard, C. A., 1877.
Hubbard, C. L., 1893.
Hunt, J. N., 1897.
Hunt, W. E., 1899.
*Hutchinson, L. J., 1889.
James, O. M., 1893.
Jenkins, E. D., 1897.
Jewell, H., 1875.
Jewett, J. Y., 1890.
Kelley, E. D., 1883.
Kenney, L. H., 1899.
Kimball, H. H., 1884.
*Kilburn, E., 1878.
Kimball, W. W., 1876.
Kittredge, L. H., 1896.
Knowles, A. C. (2 yr.), 1900.
*Leavitt, C. O., 1875.
Loveland, G. A., 1882.
Mann, M. B., 1884.
Mark, Miss G. A., 1899.
*McGregor, J. L., 1875.
Marston, F. P., 1881.
Mason, J. W., 1882.
Mason, W., 1897.
Martin, C. W. (2 yr.), 1898.
Mathes, C. E. P., 1900.
Mathes, H. C., 1898.
Megrath, W. A., 1881.
Moore, G. M., 1884.
Moore, H. F., 1898.
Morgan, A. B., 1883.
Morgan, G. A., 1898.
Mullins, G. M., 1885.
Nelson, E. E., 1900.
Nichols, H. A., 1882.
Norcross, A. Z., 1899.
Norris, J. L., 1889.
Norris, Z. A., 1884.
O'Gara, E. D., 1888.
Parker, D. D., 1876.
Parker, F. C., 1879.
Pearson, R. H. (2 yr.), 1900.
Peck, E., 1875.

Perkins, L., 1871.
Pettee, Miss A., 1900.
Porter, G. E., 1888.
Preston, J. F., 1890.
Putney, H. N., 1899.
Ramsey, I. W., 1875.
Record, C. E., 1878.
Richardson, H. P., 1898.
Robertson, Miss M. L., 1900.
Ruevsky, B. S., 1886.
Sanborn, E. Q., 1890.
Sanborn, F. D., 1898.
Sanborn, G. A., 1887.
Sanders, C. H., 1871.
Sargent, G. J., 1888.
*Sawyer, H. A., 1874.
Savage, H. N., 1887.
Scott, C. W. E., 1889.
Seward, O. L., 1875.
Shaw, R. H., 1897.
Shipley, W. N., 1900.
Simpson, Miss E. L., 1899.
Slack, C. I., 1890.
Smith, A. W., 1893.
Smith, F. W., 1898.
Smith, J. F., 1873.
Smith, J. W., 1888.
Stanton, F. T., 1881.
Stickney, V. H., 1881.
Stillings, C. E., 1900.
Stone, D. E., 1889.
Stone, E. M., 1892.
Stone, E. P., 1891.
Stratton, L. C. (2 yr.), 1897.
Thompson, E. C., 1884.
*Thompson, F. E., 1882.
Thurber, M. F., 1886.
Tolles, B. D., 1898.
Trow, C. A., 1895.
Tucker, C. H., 1873.
Vickery, C. W., 1897.
Waldron, B. L., 1887.
Walker, G. E., 1888.
Wallace, S. A., 1881.
Washburn, F., 1889.
Wason, E. H., 1886.
Wheeler, C. A., 1877.
Wheeler, D. A., 1897.
Wheeler, G. H. (2 yr.), 1898.
Whittemore, E., 1877.
Whittemore, E. S., 1897.
Whitcher, G. H., 1881.
Whittier, W. L., 1883.
White, F. A., 1872.
Wilkins, G. H., 1879.
Willard, E. M., 1875.
Wilson, J. E., 1900.
Wood, A. H., 1885.
Wood, G. P., 1886.
Woodward, C. M., 1883.
Wright, R. M., 1900.

CATALOGUE OF GRADUATES.

BACHELORS OF SCIENCE.

NOTE.—The arrangement is: (*a*) Name in full. (*b*) Later degrees taken. (*c*) Residence at time of entering college. (*d*) Occupation, etc. (*e*) Present residence. * Dead. It is earnestly requested that each graduate inform the Secretary of the Faculty of any changes that should be made in this list.

1871.

William Preston Ballard, Concord. Farmer.
P. O. Box 39, Concord.

Lewis Perkins, Hampton. Contractor.
301 Lake Avenue, Newton Highlands, Mass.

Charles Henry Sanders, Penacook. Merchant. *Penacook.*

3—

1872.

Edwin Bartlett, Bath. Harness Business. *Larned, Kansas.*

Frank Alexander White, Bow. Farmer. *Route 4, Concord.*

2—

1873.

Frederick Erasmus Eldredge, Kensington.

James Fred Smith (Dartmouth, '85). Principal Iowa College Academy. *Grinnell, Iowa.*

Charles Henry Tucker, Plaistow. Carriage Woodworker.
24 Highland Street, Amesbury, Mass.

3—

1874.

Millard Fillmore Hardy, Rev., Nelson. Graduated Theo. Inst., Ct., 1878. Clergyman. *Townshend, Vt.*

*Henry Abbott Sawyer, North Weare. Business.

2—*1

1875.

Walton Herman Aldrich, M. D. (Univ. N. Y. City, 1880), Troy. Physician and Surgeon. *Marlborough.*

Frank Pierce Curtis. Grocer. *Fitchburg, Mass.*

Frank Veranus Emerson, Lebanon. Manager Emerson Edge Tool Company. *East Lebanon.*

Charles Webster Hardy, M. D. (Mo. Med. Coll., 1881), Marlborough. Physician. *Waterville, Kansas.*

Harvey Jewell, Winchester. Fruit Grower and Market Gardener. *Cromwell, Conn.*

*Charles Ormille Leavitt, Lebanon.

*John Loney McGregor, D. D. S. (Phila. Dental Coll., 1877), M. D. (Dartmouth, 1883), Whitefield. Physician.

Eliel Peck, Lebanon. Merchant. *Kimball, Minn.*

Ira William Ramsey, Walpole. Farmer. *Walpole.*

Orlando Leslie Seward, Keene. Architect. *Keene.*

Emery Mason Willard, Harrisville. Druggist, 15 Union Street, Boston, Mass. *109 Hewlett Street, Roslindale, Mass.*

11—*2

1876.

Herbert Cyril Aldrich, Troy. Insurance. *Keene.*

Edmund Lawson Brigham, Jaffrey. Mechanic. *Clinton, Mass.*

Joseph Warren Butterfield, Westmoreland. Farmer. *North Montpelier, Vt.*

Arthur French Chamberlain, Westmoreland. General Salesman for Michigan. Edson Keith & Co., Chicago, Ill. *6542 Kimback Avenue, Chicago, Ill.*

Anson Ballard Cross, Holyoke, Mass. Railroad Contractor, with Vandegrith & Jacobs, Philadelphia. *Wilmington, Vt.*

Warren Webster Kimball, Troy. D. P. Kimball & Son, General Store. *Troy.*

Daniel Deeth Parker, Fitzwilliam. Manufacturer. *Gardner, Mass.*

7—

1877.

Rollin Kirk Adair, Indian Territory. Farmer. *Locust Grove, Cherokee Nation, Indian Ter.*

*Homer Brooks, M. D. (N. Y. Hom. Med. Coll., 1881), Franconia.

John Washington Carson, Mont Vernon. Farmer. *Francestown.*

*Charles Otto Chubert, Troy.

*Charles Albert Edwards, LL. B. (State Univ., Iowa, 1880), Keene. Lawyer.

William Francis Flint, Richmond. Surveyor, Florist, Fruit Grower, Forestry Expert. *Winchester.*

Clinton Camillus Hall, Westmoreland. Farmer, Dealer in Horses and Cattle. *East Westmoreland.*

John Goodrich Henry, M. D. (Dartmouth, 1880), Chesterfield. Physician. *Winchendon, Mass.*

*Charles Pitkin Hollister, North Montpelier, Vt. Farmer.
George Mirick Holman, M. D., Fitchburg, Mass. Chemist. *Fitchburg, Mass.*
Charles Appleton Hubbard, Troy. Treasurer United Fruit Company. *Newton Center, Mass.*
Carlos Augustus Wheeler, East Calais, Vt. Bee Keeper and Farmer. *Bracken, Comal Co., Texas.*
Everard Whittemore, Fitzwilliam. Insurance and Real Estate. *Hudson, Mass.*

13—*4

1878.

Ezra Eastman Adams, Manchester.
*Elmer Kilburn, Marlow. Civil Engineer.
Charles Edward Record, Fitchburg, Mass. Contractor and Builder. *Leominster, Mass.*

3—*1

1879.

Charles Hardy Bailey, M. D. (Dartmouth, 1881). Physician. *39 East Broadway, South Gardner, Mass. Station A.*
Richard Clinton Chapin, Chicopee, Mass. With American Writing Paper Company. *Holyoke, Mass.*
Lucius M. Cragin, Lempster. Farmer. *Springfield, Vt.*
*Nathaniel Cutler Holmes, Jaffrey. Lawyer.
Fred Charles Parker, Lempster. Merchant. *Acworth.*
George Henry Wilkins, M. D. (N. Y. Hom. Med. Coll., 1883), Amherst. Physician. *Palmer, Mass.*

6—*1

1880.

Charles Harvey Hood, Derry. *2 Benton Road, Somerville, Mass.*

1—

1881.

Edwin Thomas Aldrich, Troy. Clerk, Insurance Office. *Keene.*
Henry Lyman Barnard, Troy. Clerk. *Troy.*
*George Jordan Boardman, Lawrence, Mass.
Edwin Franklin Bristol, Harwinton, Conn. Miller and Farmer. *Ascutneyville, Vt.*
Artemas Terald Burleigh. Farmer. *Franklin.*
Frank Dana Ely, Cavendish, Vt. With Vermont Marble Company, Electrician. *Proctor, Vt.*
Sanford Eugene Emery, LL. B. (Albany Law School, 1886), Proctorsville, Vt. Attorney at Law. *Proctorsville, Vt.*

Charles Herbert Hazen, Hartford, Vt. Farmer and Market Gardener. *Bethlehem.*

Frank P. Marston, Hartford, Vt. With International Paper Company. *Wilder, Vt.*

William Augustus Megrath, M. D. (Dartmouth, 1885), Cavendish, Vt. Physician. *Loudon.*

Fred Townsend Stanton, Strafford. Farmer. *Strafford Corner.*

Victor Hugo Stickney, M. D. (Dartmouth, 1883), Tyson, Vt. Physician and Surgeon to N. P. R. R. Vice-President First National Bank. *Dickinson, N. Dakota.*

Samuel Austin Wallace, Ph. G. (Boston School of Pharmacy, 1886), West Hartford, Vt. Druggist. *Crookston, Minn.*

George Herbert Whitcher, Strafford. Professor of Agriculture and Director of Experiment Station (1887-1899). Superintendent of Schools. *Durham.*

14—*1

1882.

Harvey Lincoln Boutwell, LL. B. (Boston Univ., 1886), Hopkinton. Lawyer, 209 Washington Street, Boston, Mass. *37 Pierce Street, Malden, Mass.*

Dana Justin Bugbee, North Pomfret, Vt. Mining in Colorado. *North Pomfret, Vt.*

Robert Fletcher Burleigh, M. D. (Dartmouth, 1888), Franklin. Physician. *South Braintree, Mass.*

La Forrest John Carpenter, Surry. *Cliff Street, Malden, Mass.*

Edwin Preston Dewey, Hanover. Civil Engineer. *Pasadena, Cal.*

George Andrew Loveland, LL. B. (Univ. of N. Y., 1886), Norwich, Vt. Section Director, U. S. Weather Bureau. *1347 L Street, Lincoln, Neb.*

John Wright Mason, Hanover.

Harlan Addison Nichols, Derry. County Physician. *Fort Stockton, Texas.*

*Frank Elmer Thompson, Stark.

9—*1

1883.

Elmore Ferdinand Arnold, M. D. (Univ. City of N. Y., 1885), Londonderry, Vt. Physician. *New York, N. Y.*

Frank Landor Bigelow, Proctorsville, Vt. Instructor in Mathematics and Sciences, Goddard Seminary, Barre, Vt., 1883-86. Business. *Rutland, Vt.*

Frederick Stocks Birtwhistle, Troy. Electrical Engineer, Foreign Department General Electric Company, 44 Broad Street, N. Y. *Troy.*

Noice D. Bristol, Harwinton, Conn. Scenic Photographer. *Logan, Ohio.*

Frederick Plummer Comings, Lee. Trustee 1891—. Principal High School, South Yarmouth, Mass. *Lee.*

Frank Harry Follansbee, Canaan. Railway Mail Clerk. *Enfield.*

Adams Clark French, Franklin Falls.

James Edgar Gay, Tunbridge, Vt. Manufacturer. *Cavendish, Vt.*

Elmer Daniel Kelley, Franklin Falls. Farmer and Market Gardener. *Franklin Falls.*

Alva Benjamin Morgan, Canaan. Pharmacist. *Woodstock, Vt.*

William Lincoln Whittier, Deerfield. Farmer and Mechanic. *Deerfield Center.*

Charles Minot Woodward, Hanover. Teacher of Science, Corsicana High School. *Corsicana, Texas.*

12—

1884.

*Ernest Smith Cummings, Lee. U. S. Signal Service.

Fred Carlos Davis, South Reading, Vt. Lawyer. *Springfield, Vt.*

Sylvester Miller Foster, Riverhead, N. Y. Insurance Agent, Coal Dealer, and Secretary Suffolk County Agricultural Society. *Riverhead, N. Y.*

Herbert Harvey Kimball, M. S. (Columbian Univ., 1900), Hopkinton. Clerk U. S. Weather Bureau. *Washington, D. C.*

Moses Bisbee Mann, Benton. Inspector of Customs. *11 Hancock Street, Malden, Mass.*

George Milton Moore, Plymouth, Vt. Insurance Agent. *Ludlow, Vt.*

Ziba Amherst Norris, Lyme. Norris Brothers, Groceries and Provisions. *1677 Washington Street, Boston, Mass.*

Edwin Chapin Thompson, Lee. Observer in Charge U. S. Weather Bureau. *Sandusky, Ohio.*

8—*1

1885.

George Ellsworth Adams, Weston, Vt. Merchant. *Vernal, Utah.*

Ruel Seabury Alden, Lyme. Superintendent of College Farm, 1895-97. Farmer. *Concord.*

Walter Eugene Angier, C. E. (Dartmouth, 1887), West Swanzey. Assistant Engineer I. C. R. R. and Y. & M. V. R. R. *50 78th Street, Chicago, Ill.*

Edward Alonzo Bailey, West Swanzey. With George Holbrook & Co. *55 Pine Street, Keene, N. H.*

Phillips Greenleaf Bickford, Lyme.

Andrew Walter Brill, Riverhead, L. I. With North British & Mercantile Fire Insurance Company, 54 William Street, New York City. *Hempstead, N. Y.*

Paul Cuff Brooks, Boston, Mass.

Frank Jay Emerson, Epping.

Allen Hazen, Wilder, Vt. Civil Engineer. *St. Paul's Building, 220 Broadway, N. Y.*

George Mayo Mullins, Londonderry. Lawyer. *Papillon, Neb.*

Albert Henry Wood, Lebanon. Associate Professor of Agriculture, 1890-94. Grain Merchant. *Framingham, Mass.*

11—

1886.

Frank Albert Davis, M. B., M. D. (Boston University School of Medicine, 1897, 1898), South Lee. Physician and Surgeon. *4 Marlborough Street, Boston, Mass.*

James Ellsworth Harvey, Surry. Photographer. *Clinton, Mass.*

Belezar Stoianoff Ruevsky, Sistova, Bulgaria. Professor in State Commercial School. *Sistova, Bulgaria.*

Madison Templeton Thurber, M. D. (Dartmouth, 1890), Webster. Physician and Surgeon. *95 Savin Hill Ave., Boston, Mass.*

Edward Hills Wason, New Boston. Lawyer. *Nashua.*

George Pillsbury Wood, Lebanon. Civil Engineer, City of Baltimore Topographical Survey. *922 Equitable Building, Baltimore, Md.*

6—

1887.

William Sprague Currier, Norwich, Vt. In charge U. S. Weather Bureau Office. *Toledo, Ohio.*

Arthur Woodbury Hardy, C. E. (Dartmouth, 1889), Hopkinton.

George Albert Sanborn, Rochester. Salesman for Grand Union Tea Company. *Rochester.*

Hiram Newton Savage, White River Junction, Vt. Member Am. Soc. C. E.; Consulting Hydraulic Engineer. *National City, Cal.*

Bion Leland Waldron, Strafford. Observer U. S. Weather Bureau. *Columbus, Ohio.*

5—

1888.

Melvin Burnside Carr, North Haverhill. Civil Engineer Boston Elevated Railway Company, 101 Milk Street, Boston, Mass. *88 Marshall Street, Medford, Mass.*

Herbert Grant Davis, South Lee. Superintendent Easton Power Company of Pennsylvania. *Easton, Penn.*

Edwin Chandler Gerrish, Webster. Assistant Paymaster for Proprietors of the Locks and Canals on Merrimack River. *Lowell, Mass.*

William Nelson Hazen, C. E. (Dartmouth, 1890). Assistant Engineer with Keystone Bridge Works. *51st and Butler Streets, Pittsburg, Penn.*

Edward David O'Gara, Hanover. Farmer. *Hanover.*

George Elmer Porter, M. D. (Dartmouth, 1892), Hartford, Vt. Physician. *Marengo, Wayne Co., N. Y.*

George Jonathan Sargent, Canterbury. Civil Engineer. *39 North Main Street, Concord.*

John Warren Smith (M. S., 1900), Grafton. Section Director U. S. Weather Bureau, in charge Columbus, Ohio, and of Ohio Section. Special Lecturer in Meteorology at Ohio State University. *Columbus, Ohio.*

George Elwin Walker, Littleton. Farmer. *Littleton.*

9—

1889.

Fred Harvey Colby, Hopkinton. Fruit Grower. *Prosser, Wash.*

Linwood Carroll Gillis.

*Louis Jerome Hutchinson, Norwich, Vt. Electrician.

John Lawrence Norris, Lyme. Norris Brothers, Groceries and Provisions, 1673-1679 Washington Street, Boston, and 587-593 Washington Street, Dorchester, Mass. *6 Worcester Square, Boston, Mass.*

Charles Walter Earl Scott, Winchester.

David Elmer Stone, Hartford, Vt. Grain Merchant. *Framingham, Mass.*

Fred Washburne, West Springfield. With Sargent & Co., Foreman of Foundry Department. *56 Carmel Street, New Haven, Conn.*

7—*1

1890.

John Young Jewett, C. E. (Dartmouth, 1895), Gilford. Civil Engineer, Dam and Aqueduct Department, Metropolitan Water Board, Boston. *402 Chestnut Street, Clinton, Mass.*

Joseph Franklin Preston, Hanover. Clerk. *Boston, Mass.*

Elihu Quinby Sanborn, Webster. Machinist. *Contoocook.*

Clarence Ira Slack, Norwich, Vt. With Vermont Marble Company. *West Rutland, Vt.*

4—

1891.

Ernest Gowell Cole, Hampton. Merchant. *Hampton.*

Russell Marden Everett, Chester. Teacher of Mathematics, Broaddus Classical and Scientific Institute. *Clarksburg, W. Va.*
Edward Payson Stone, Canaan Center. Farmer. *Orford.*

3—

1892.

Percey Lovejoy Barker, C. E. (Dartmouth, 1894), Milford. Civil Engineer Boston & Maine Railroad.
16 Bancroft Street, Worcester, Mass.
Fred Driggs Fuller, Hanover. Assistant Chemist, New York Agricultural Experiment Station.
14 Elmwood Avenue, Geneva, N. Y.
Arthur Benezette Hough, Lebanon. Farmer. *Lebanon.*
Edward Monroe Stone, C. E. (Dartmouth, 1894), Marlborough. With Henry A. Wolcott, Civil and Mechanical Engineer.
49 Pearl Street, Hartford, Conn.

4—

1893.

Wilton Everett Britton, Keene. Horticulturist, Connecticut Agricultural Experiment Station. *1317 Boulevard, New Haven, Ct.*
Frank John Bryant, Enfield. Teacher. *Lebanon.*
Charles Elbert Hewitt, M. M. E. (Cornell, 1895), Hanover. Member of firm of Hewitt & Warden, Electrical Engineers and Contractors. *Newburgh, N. Y.*
Charles Lincoln Hubbard, M. E. (1895), Fitzwilliam. Heating & Ventilating Engineer, 93 Federal Street, Boston, Mass.
Needham, Mass.
Orrin Moses James, Northwood. Civil Engineer and Surveyor.
Northwood Narrows.
Arthur Whitmore Smith, M. S. (Wesleyan Univ., 1895), Norwich, Vt. Instructor in Physics and Electrical Engineering, Tulane University of Louisiana. *New Orleans, La.*

6—

1894.

Bert Sargent Brown, Hanover. Livery Stable Keeper.
Hanover.
Fred Willis Gunn, Keene. Farmer and Fruit Grower. *Keene.*
Frederick William Howe, Hollis. Professor of Chemistry.
State Normal School, Framingham, Mass.

3—

1895.

Frank Stanley Adams, Gilsum. With Vermont Farm Machine Company. *59 Pine Street, Bellows Falls, Vt.*
Frank Clifton Britton, Keene. Superintendent Belchertown Co-operative Creamery. *Belchertown, Mass.*

Henry Elmer Hill, Plainfield, Vt. Farmer. *Dickinson, N. D.*
Charles Arthur Trow, Mont Vernon. Assistant Engineer, Construction Department, Southern Pacific Railroad.
Simi, Ventura Co., Cal.
4—

1896.

Lewis Harris Kittredge, Keene. Secretary and Manager of the Peerless Manufacturing Company.
1193 Euclid Avenue, Cleveland, Ohio.
1—

1897.

Harlan Winifred Barney, Grafton. Express Agent.
Manchester.
Carrie Augusta Bartlett, Lee. Teacher. *South Lee.*
Mary Blaisdell Bartlett, Epping. Post-Graduate Student.
Durham.
Walter French Buck, Manchester. Head of Science Department, High School. *Leominster, Mass.*
Arthur Willard Colburn, Dracut, Mass. Farmer. *Dracut, Mass.*
Carrie Lydia Comings, Durham. Teacher. *Durham.*
Irving Lyford Dennett. Erecting Engineer, with Westinghouse, Church, Kerr & Co. *Pittsburg, Penn.*
*Mary Elisabeth Comings (Mrs. I. L. Dennett), Durham.
Elwin Henry Forristall, M. Sc., 1900, Columbia. Manager for the Walker Gordon Laboratory Company.
Charles River Village, Mass.
Leslie David Hayes, Durham. Teacher of Manual Training, Bay City High School. *Bay City, Mich.*
John Norton Hunt, Peterborough. *Peterborough.*
Ellery Dunbar Jenkins, Lee. Chemist, Lowell Fertilizer Company. *P. O. Box 105, Lowell, Mass.*
Woodruff Mason, Stamford, Conn. Medical Student, Columbia University. *New York City.*
Roscoe Hart Shaw, Milton. Assistant Professor of Agricultural Chemistry, University of Wisconsin. *Madison, Wis.*
Charles William Vickery, Dover. Mining. *Nome City, Alaska.*
Delbert Amos Wheeler, South Ashburnham, Mass. Teacher.
Rye.
Everett Sidney Whittemore, Colebrook. Manager of Punkatasset Farm. *Concord, Mass.*
17—*1

1898.

*Richard Cole Butterfield, Westmoreland.
Helen Buzzell, Lee. Teacher. *Lee.*

Bernice Elisabeth Caverno (Mrs. E. H. Hancock), Durham. *Durham.*

Burton Albert Corbett, Colebrook. Farmer. *Colebrook.*

Alfred Caverly Durgin, Lee. Farmer and Fruit Grower. *Lee.*

James Alfred Foord, Walpole. Assistant in Dairy Husbandry, College of Agriculture, Cornell University. *37 East Avenue, Ithaca, N. Y.*

John William Fullerton, Somersworth. Paymaster with Great Falls Woolen Company. *Somersworth.*

Arthur Given, Durham. *69 Charles Street, Boston, Mass.*

Edward Henry Hancock, Belmont. Engineer and Curator of Buildings of New Hampshire College. *Durham.*

Mabel Lucy Hayes, Durham. Teacher. *Durham.*

Tomokichi Hirokawa, B. S. (Massachusetts Institute of Technology), Iamabari, Japan. Boston Elevated Railway, Electrical Engineer Department. *3 Oxford Terrace, Boston, Mass.*

Harry Clinton Mathes, Newmarket. Grocer. *112 Washington Street, Dover.*

Herbert Fisher Moore, M. E. (Cornell, 1899), Penacook. Instructor in Machine Design, Sibley College, Cornell University. *120 Oak Avenue, Ithaca, N. Y.*

Gerry Austin Morgan, Goffstown. Draughtsman with Taft-Pierce Manufacturing Company. *93 Blackstone Street, Woonsocket, R. I.*

Harry Putnam Richardson, Milford. Assistant in Agriculture, New Hampshire College Experiment Station. *Durham.*

Fred Dexter Sanborn, Ashland. Paper Box Manufacturer. *Ashland.*

Fred Webster Smith, Franklin Falls. Night Superintendent Sulloway Mills. *Franklin Falls.*

Benjamin D. Tolles, Somersworth. Machinist. *Somersworth.*

18—*1

1899.

Harry Clark Baker, South Yarmouth, Mass. Electrician with General Electric Company. *12 Sachem Street, Lynn, Mass.*

Harry Everett Barnard, Nashua. Assistant Chemist Naval Proving Ground. *Naval Proving Ground, Indian Head, Md.*

Harrison Edward Clement, Nashua. With the Frisco Consolidated Mining Company, Limited. *Gem, Shoshone Co., Idaho.*

Irving Atwell Colby, Exeter. Instructor in Woodwork New Hampshire College. *Durham.*

Willis Daniel Farley Hayden, Hollis. Superintendent Middlebrook Farm. *Dover.*

Frederick Libbey Horton, Dover. With General Electric Company. *107 Park Street, Lynn, Mass.*

William Elmer Hunt, Nashua. Lieutenant Company C, Nineteenth United States Infantry. *Manila, P. I.*

Louis Hobert Kenney, Pownal, Me. Instructor in Mathematics and Sciences in Stearns's Preparatory School. *Hartford, Conn.*

Grace Agnes Mark, Gilsum. *Gilsum.*

Arthur Zebulon Norcross, Rindge.

Harry Nelson Putney, Franklin.

Etta Lillian Simpson, Durham. Teacher. *Berwick, Me.*

12—

1900.

Herbert Prescott Andrews, Hollis. On Engineering Staff Wagner Electrical Manufacturing Company. *4048 Cook Avenue, St Louis, Mo.*

David Burns Bartlett, Manchester. Assistant in Biology, New Hampshire College Experiment Station. *Durham.*

Frances Burnham, Durham. Teacher. *Durham.*

Blanche Mary Foye, Durham. Teacher in Milford High School. *Milford.*

Charles Elliot Page Mathes, Durham. With Hill, Welch & Co., 104-112 Munroe Street, Lynn. *37 New Chatham, Lynn, Mass.*

Edward Emil Nelson, Nashua. Mining. *Mt. Bullion, Mariposa Co., Cal.*

Alvena Pettee, Durham. Teacher in Berwick Academy. *Berwick, Me.*

Marie Livingstone Robertson, Buffalo, N. Y. Illustrator with Professor L. H. Bailey, Cornell University. *Ithaca, N. Y.*

Walter Noah Shipley, Nashua. *Nashua.*

Charles Edwin Stillings, Somersworth. Testing Department, General Electric Company. *78 Mall Street, Lynn, Mass.*

John Ernest Wilson, Hollis. With Newmarket Electric Light & Power Company. *Durham.*

Robert Morrill Wright, Hill. Teacher Grammar School. *Hill.*

12—

TWO YEARS' COURSE IN AGRICULTURE.

Lyman Charles Stratton, Hollis. (1897.) Superintendent Dairy Farm. *Brightwood, D. C.*

Charles Wesley Martin, Durham. (1898.) Gardener. *Durham.*

George Henry Wheeler, Temple. (1898.) Farmer. *Temple.*

Fred Joseph Durell, Newmarket. (1900.) Farmer. *Newmarket.*

Harry Alvin Elliot, Lyme. (1900.) Clerk Grain and Feed Store. *Lyme.*

Edward Augustus Hills, Hollis. (1900.) Teacher. *Hollis.*
Albert Cate Knowles, Epsom. (1900.) Farmer. *Epsom.*
Robert Hale Pearson, Webster. (1900.) Four Years' Course New Hampshire College. *Durham.*

SUMMARY.

Graduates, Bachelors of Science, 1871-1900	216
Graduates, Two Years' Course	3
Agriculturists	36
Architects	1
Business Pursuits	49
Chemists	4
Clergymen	1
Civil, Mechanical, Electrical, and Mining Engineers	26
Lawyers	6
Manufacturers and Mechanics	11
Mining	4
Physicians	13
Post-Graduate Students	3
Teachers	30
Unknown	18
United States Army	1
United States Weather Bureau	6
Dead	15

COLLEGE CALENDAR.

1900.

Sept. 6. First term of fifteen weeks began—Thursday morning.
Dec. 21. First term ends—Friday night.

WINTER VACATION.

1901.

Jan. 8. Second term of ten weeks begins—Tuesday morning.
March 22. Second term ends—Friday night.

SPRING VACATION.

Apr. 1. Third term of ten weeks begins—Monday morning.
June 3-4. Examinations for admission begin—Monday at 9 A. M.
June 4. Annual examinations close—Tuesday noon.
June 4. Smyth Prize Reading and Speaking—Tuesday evening.
June 5. Commencement—Wednesday.

SUMMER VACATION OF THIRTEEN WEEKS.

Sept. 3-4. Examinations for admission begin—Tuesday at 9 A. M.
Sept. 5. First term of fifteen weeks begins—Thursday morn'g.
Dec. 18. First term ends—Wednesday night.

CALENDAR

1900

JULY.

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AUGUST.

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1901

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SEPTEMBER.

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OCTOBER.

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NOVEMBER.

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DECEMBER.

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